

## REVISIONAL NOTES ON AUSTRALIAN THEREVIDAE.

By JOHN S. MANN.

## PART I.

*Introduction.*

This paper is the first of a series in which it is intended to prepare a revision of Australian THEREVIDAE.

The first Australian Therevid was described by Guerin in 1830 (*Agapophytus australasiae*) and in 1835 Walker described a second species (*Thereva misella*) which has remained unrecognised; others were added by Erichson in 1842, Macquart 1846-1850, Walker 1848-1857, Schiner and Thomson in 1868, Roder in 1885, Bigot in 1889 and more recently, the species of the Indo-Australian region were revised by Krober in 1912 and further species were described by the same author in 1913 and 1914; White published his revision of the Tasmanian species in 1915 and in 1916 Hardy described one species as new, and again in 1921 the same author gave some valuable notes and divided the Australian genera into two groups.

Krober in his work added greatly to our knowledge of this group, but, as pointed out by White in 1915 and by Hardy, 1921, the unsatisfactory quality of his generic conceptions has left the taxonomy of the Australian genera in a condition that cannot be regarded as satisfactory.

Unfortunately insufficient material is available at present to allow of a complete revision of the family, but such genera as are recognised will be dealt with in the series. In this part two new genera are proposed, seven species described as new and six names sunk as synonyms.

It was the late Arthur White's intention to revise the mainland species on completing those of Tasmania and he indicated in his manuscript, which was in the possession of the late Dr. E. W. Ferguson, that in classifying the genera, the form of the wing venation seemed to be of considerable importance. Mr. G. H. Hardy independently arrived at the same conclusion after examining all of the material available to him. As far as the Australian representatives of the family seen by me are concerned this character still holds good, and it is my intention to utilise this convenient grouping.

While thanking the Director of the South Australian Museum, Dr. I. M. Mackerras, Messrs. F. H. S. Roberts, A. P. Dodd, B. A. Smith and T. A. Cole for the generous loan of material, I wish to express my indebtedness to Mr. G. H. Hardy for the loan of his entire collection and for his unpublished notes, also for criticisms given during the preparation of this paper. My thanks are also due to Dr. C. H. Curran, Department of Agriculture, Ottawa, Canada, for representatives of some American genera that have been used for comparison purposes.

*Characters of the Adult.*

The THEREVIDAE form a well defined group of the Asiloidea and in general appearance closely resemble some of the ASILIDAE (*Dasygogninae*), but are less heavily built, with weaker legs, no excavation between the eyes on the vertex and

with a fleshy proboscis in contrast to the more or less chitinised one found in ASILIDAE. The venation distinctly separates them from the BOMBYLIIDAE, MYDAIDAE and APTOCERIDAE, the latter differing also in the form of the palpi.

The species are mostly small to moderately sized, with the head hemispherical, semicircular or somewhat pyriform; the antennae are composed of three primary segments, the third of which bears an apical or subapical style which may be either one or two segmented and which also bears a one or two segmented apical or subapical arista, thus in all, never more than seven segments have been traced; the eyes are large, approximated, contiguous or widely separated in the male, and more or less broadly separated in the female, sometimes furrowed, never hairy; three ocelli are present and most species have distinct orbital or post-ocular bristles; the front is generally hairy; the face is short, often reeding, bare or tomentose only; the cheeks are generally quite small and usually bear long thin hair; the proboscis and palpi are as a rule small, often projecting, blunt or broadened at the apex, but sometimes sharp pointed as in *Acupalpa* Krober.

The thorax is of moderate size and bears hairs and bristles. The bristles, although quite uniform in general arrangement are apparently of little systematic importance; they vary, but the variation appears to be individualistic and not specific. The scutellum bears marginal bristles, is generally semicircular and horizontal, but in the genus *Acrispisa* is triangular and raised to become perpendicular.

The abdomen is composed of eight clearly detected segments, narrowly or broadly conical or straight sided and somewhat flattened, often hairy and in the males of some genera silvery pollinose.

The legs are moderate in length, but the posterior pair are considerably longer than the others; the femora may have one or several pairs of bristles or may be bare; the tibiae and tarsi usually very bristly.

The wings are broad, hyaline, darkened, banded or spotted and with a fairly uniform venation; veins M1 and M2 may coalesce for a little beyond the median cell or may be narrowly separated at the cell or else broadly separated at their origin and coalesce before or at the margin, converge or diverge; CU1 and 1A coalesce before or at the margin of the wing; a well developed stigma is generally present and the costa is often denticulate or ciliated and is inflated to some extent in *Anabarrhynchus*, conspicuously so in *A. passus* White.

#### *Habits of the Adult.*

Little is known of the habits of adult THEREVIDAE, although some species have been regarded as being predators on other insects, especially small diptera.

An examination of the mouth parts does not indicate any special adaptations for such a mode of life. The ASILIDAE on the other hand are active and have a chitinised proboscis which enables them to pierce and kill their prey, whereas the THEREVIDAE are mostly less active and the proboscis has fleshy labella which would certainly prevent them from killing any of the more heavily chitinised insects. Although the writer has observed them flying about in numbers he has never seen them catch insects. Usually predatory insects have to be watched only for a short space of time when they will catch or endeavour to catch their prey. It has been recorded on several occasions that the adults have been bred from Lepidopterous larvae (*Sphinx*, *Atleucis*).

The males usually appear on the wing earlier than the females and may be seen hovering in the air in a manner reminiscent of some of the CHIRONOMIDAE; when hovering thus some of the species are very conspicuous owing to the silvery

pollinose of the abdomen, and, again, the posterior legs hang downward in a manner characteristic of many HYMENOPTERA. The females are generally to be found running about the ground or resting on grass stems or the leaves of low growing shrubs.

Some of the genera may be captured around flowers, particularly *Leptospermums*, others by sweeping long grass, while others frequent the damp river banks or scrubs, sand dunes along the coast or sandy patches throughout forest country.

#### *The Early Stages.*

The larvae are elongate, slender and apparently 19 segmented, tapering at both ends, amphipneustic, living in the earth, sand or rotting wood. Brunetti (Fauna of British India, Vol. 1) reports that they are "occasionally found in fungi, turnips or dung and are said to be carnivorous." Miss Vera Irwin-Smith informs me that she has frequently found them when digging in her garden and has fed them on blowfly larvae, meat and worms.

The pupae are free with two spines on the head, a rather heavy thorax and with each abdominal segment armed with a circle of reclinate bristles or spines.

#### *Distribution.*

*Psilocephala* is the only genus that is known from all countries of the world. *Thereva* is known from all except Australia; the remainder are more or less limited in distribution. Krober records 11 genera as Indo-Australian only, 9 as Palaearctic, 4 as North American, 1 as South American and 2 as African.

*Ectinorrhynchus* has been described from South Africa and South America, and *Anabarrhynchus* from Madagascar and Chile.

All of the other genera recognised and dealt with in these notes are confined to Australasia.

#### *Key to the Groups.*

- Cell M3 open . . . . . Group 1.  
 Cell M3 closed . . . . . Group 2.

Group 1 includes the genera *Ectinorrhynchus*, *Evansomyia*, *Taenogera*, *Platycaenum*, *Anabarrhynchus*, *Neodialineura*, *Psilocephala*, *Belonalys* and *Eupsilocephala*.

Group 2 is represented by the genera *Agapophytus*, *Phycus*, *Actopygia*, *Acupalpa*, *Lonchorrhynchus*, *Parapsilocephala*, *Pseudoloxocera* and *Acrispisa*.

The genus *Spatulipalpa* has not been recognised but Krober described two species, one with the cell closed and the other with it open. It is quite probable that one of these species will later be associated with another genus, but until recognised the genus will have to be left in abeyance. It has recently been questioned if *Clethentia* White, originally placed in the family LEPTIDAE and transposed to the THEREVIDAE by Hardy in (Proc. Linn. Soc. N.S. Wales), 1921, belongs to this family owing to the absence of the female genital spines.

#### *Key to the Genera of Group 1.*

1. Metallic coloured . . . . . *Eupsilocephala* Krober.  
 Not metallic coloured . . . . . 2.
2. First antennal segment greatly swollen and arising from a bilobed antennal tubercle; style one segmented; arista short; small species. . . . .  
 . . . . . *Neodialineura* gen. nov.  
 Not such flies . . . . . 3.

3. Antennae with style and arista subapical; head distinctly pyriform, but broad; front with two shining black calli. . . . . *Platycaenum* Krober. Style apical; calli if present, indistinct; head if pyriform, not broad. 4.
4. Abdomen short, robust and conical. . . . . *Anabarrhynchus* Macquart. Abdomen elongate, if conical then slender . . . . . 5.
5. Antennae distinctly longer than head; style two segmented; abdomen of males silvery pollinose; antennal tubercle prominent. . *Evansomyia* gen. nov. Antennae shorter than, or at most, very slightly longer than the head. . . . . 6.
6. First segment of antennae robust and noticeably broader than the third when viewed dorsally; style one segmented; abdomen of males silvery pollinose; antennal tubercle prominent. . . . . *Ectinorrhynchus* Macquart. First segment of antennae, when viewed dorsally, not noticeably robust or broader than the third; style two segmented; abdomen of males not silvery pollinose; antennal tubercle not prominent. . . . . *Taenogera* Krober.

*Note.*—The number of segments in the style affords an excellent character for the separation of the genera, but it is not always convenient, therefore an attempt has been made to incorporate other distinctions in the above key.

The genera *Psilocephala* and *Belonalys* have not been recognised, therefore it has not been possible to insert them in the key; notes will be given on these genera in the ensuing pages.

#### Genus ECTINORRHYNCHUS.

*Ectinorrhynchus* Macquart, Dipt. Exot., suppl. 4, 1850. *Dimassus*, Walker, List. Dipt. Brit. Museum, suppl. 1, p. 108, 1851.

The head is broader than the thorax, flattened above and produced in front and thus appearing somewhat pyriform and forming a prominent antennal tubercle; antennae inserted below the middle of the head height, which position is in relation to the anterior curve, horizontal or sub-deflexed, approximated or contiguous at the base, composed of three primary segments with an apical style which bears a short arista; the first segment is considerably thickened and the second and third divergent; proboscis and palpi projecting prominently; eyes large and descending well down on to the cheeks; face and cheeks small.

The thorax longer than broad; scutellum semicircular and furnished with 2 marginal bristles; postscutellum convex.

The abdomen is parallel sided and somewhat flattened, in the male covered with silvery tomentum.

The anterior coxae are sometimes elongate; the femora bear a pair of apical bristles and the tibiae and tarsi are furnished with numerous bristles.

The wings are twice to three times as long as broad and banded; vein R4 meets the border well above the tip of the wing and R5 well below, M1 and M2 divergent, M3 and M4 very slightly convergent, 1A straight and coalescing with CUL well before the border; costa ciliated.

Genotype. *Ectinorrhynchus variabilis* Macquart.

Distribution: The typical species is distributed over practically all of the southern half of the continent; and *albimanus* Krober from N.S. Wales and Southern Queensland.

Under this genus eight Australian species were placed, namely:—*variabilis* Macquart, *phyciformis* White, *terminalis* Walker, *superbus* and *viduus* Schiner, *brunneus*, *albimanus* and *rufipes* Krober; of these *terminalis* is a synonym of *variabilis*, *superbus* and *viduus* are synonymous and more readily conform to the

genus *Taenogera*, *rufipes* belongs to group 2 and *phyciformis* has been removed to a new genus. This leaves only three species conformable to the genus, two of which are described below, the third, *brunneus* not having been recognised.

Range: The genus seems to be mainly confined to Australia, but two species have been described from South Africa and one from South America; it is probable, however, that these will be associated with another genus at some subsequent date.

*Key to the Species of Ectinorrhynchus* Macquart.

- Antennae light brown; wings with three cross bands; slender species. . . . .  
 . . . . . *albimanus* Krober.  
 Antennae dark brown; wings with two cross bands; robust species. . . . .  
 . . . . . *variabilis* Macquart.

ECTINORRHYNCHUS VARIABILIS.

*Thereva variabilis* Macquart, Dipt. Exot., suppl. 1, p. 102, 1846; *Dimassus terminalis* Walker, Cat. Dipt., pt. 1, 129, 1848; *Id.*, Walker, Dipt. Saund. Ins., 1, p. 3, 1850; *Ectinorrhynchus variabilis* Macquart, Dipt. Exot., suppl. 4, p. 103, 1850; *Xylophagus variabilis* Walker, List. Dipt. Brit. Mus., suppl. 1, 1854; *Xylophagus basipunctatus* Walker, Trans. Ent. Soc. Lond., iv., p. 121, 1857; *Ectinorrhynchus variabilis* Schiner, Reise Novara. Dipt., 1868; *Id.*, Krober, Ent. Mitt., 1, p. 155, 1912; *Id.*, White, Proc. Roy. Soc. Tasm., 1915.

Length: 10-13 mm.

*Male*: Head considerably broader than long; occiput greyish or brownish grey and bearing rows of black hairs and bristles; eyes separated on the vertex by the width of the ocellar tubercle, slightly convergent below this for one half of the length and from thence widely diverging; front flattened, narrower above than below, black-brown with white towards the eye margins; antennal tubercle dark-brown, circled by a narrow silvery white band and bearing numerous stiff black hairs; the antennae are dark-brown with some blackish reflections, shorter than the head, subdeflexed, closely approximated at the base, with the first segment thickened, it being one-third as wide as its greatest length, slightly tapering from base to apex and bearing numerous black bristles and stiff black hairs; the second segment is somewhat globular, narrower than the apex of the first, but similarly covered with black hairs and bristles; the third is about half the length of the first, ovoid-conical and bearing a few stiff black hairs at the base; the style is tholiform; the arista short; the face greyish; the cheeks silvery grey and bearing long thin whitish hairs; the proboscis is brown-black and projects in an upward direction as far forward as the apex of the second antennal segment; the palpi are yellow and two-thirds the length of the proboscis and covered with blackish hairs.

The thorax is twice as long as the head, two-thirds as broad as long and as deep as broad, covered with blackish pubescence and varying in general colour from greenish-grey to light brown and with two lateral and one dorsal broad dark-brown longitudinal stripes, the dorsal one of which extends only for two-thirds the length of the dorsal surface; humeral calli bright brown or yellow-brown; pleurae greyish or blackish but sometimes brownish; scutellum brownish black with the posterior margin dark brown and bearing two black and convergent marginal bristles; postscutellum black, almost hidden beneath the scutellum.

The abdomen is flattened, straight sided, black, the first five segments extensively covered with shining silvery white tomentum on the dorsum and with the sides brown, the remaining segments are shining brown; the second and third segments often have the hind margins white; genitalia reddish with yellow-brown extremity; venter brownish.

The legs: Coxae brown and covered with greyish tomentum; femora and posterior tibiae dark brown, the posterior femora being somewhat darker, the intermediate and anterior tibiae yellow-brown with blackish apices; tarsi black with the basal two-thirds of the first anterior and intermediate segments yellow-brown and that of the posterior, yellowish; the posterior femora bear a pair of black apical bristles and the tibiae and tarsi are furnished with numerous black bristles and hairs.

The wings are three times as long as broad, tinged brownish and with two blackish brown cross bands, one of which is narrow, irregular and indistinct and crosses at the base of the median cell, and the other broad and distinct and extends from the apex of the median cell to the tip of the wing.

Variations: The colour of the hind femora may vary from dark brown to black-brown and the basal third of the first hind tarsal segment from dirty white to yellow. The colours of the thorax are very variable.

Female differs from the male by having a slightly broader front, lighter coloured legs and by the absence of the silvery pollen on the abdomen which is either shining black with the hind margin of the fifth segment, the apical half of the sixth and the whole of the seventh and eighth, orange-brown or shining red-brown, or else orange-brown with the hind margins of the segments black.

This is the typical form of the genus and is the most common Therevid met with along the coast of Australia and Tasmania and with a range extending from Hobart (Tasmania) to Brisbane (Queensland); it is also known from West Australia. The species appears on the wing as early as July in Brisbane and continues throughout the summer months. It is readily distinguished from the other members of the genus by the wing pattern in conjunction with the colour of the legs and the thoracic stripes.

Localities: Sydney, Woy Woy, Barrington Tops, Ballina, Moss Vale (N.S.W.), Brisbane (Queensland), Georgetown, Mount Arthur, Bridport, Hobart, Triabunna (Tasmania), Warren (West Australia).

#### ECTINORRHYNCHUS ALBIMANUS.

*Ectinorrhynchus albimanus* Krober, Mitt. Naturh. Mus. Hamburg, xxxi., p. 37, 1914.

Type: K. K. Hofmuseum, Wien.

Length: Male, 9-11 mm.; female, 12-14 mm.

*Male*: Head with the occiput dark brown and bearing numerous black hairs and bristles; the front is dull black, somewhat grey towards the eye margins, beset with a few black hairs and the lower third ornamented with a few indistinct longitudinal striae; antennal tubercle dull black, brownish at apex and with silvery sides; the antennae are light brown with the first segments contiguous, thickened, three times as long as the greatest width which is at the base and beset with a few black bristles; the second segment is somewhat globular, flattened at both ends and bearing a few black bristles and hairs, the third is nearly three times as long as its greatest width and has the sides straight and parallel for two-thirds of their length and from thence converging, bears a few black bristles at the base and is covered throughout with fine black hairs; the style is short and conical with a rather thick arista which is slightly longer than the style; face brown; cheeks silvery grey and bearing a few long, thin, whitish and some short black, hairs; the proboscis is dark brown and projects as far forward as the middle of the first antennal segment; the palpi are light brown and two-thirds the length of the proboscis.

The thorax is greyish brown with six broad longitudinal stripes, the four median dorsal ones of which extend for two-thirds the length and the outer ones indistinct but extending for the whole length of the dorsal surface; pleurae greyish black; scutellum dark velvet brown with a chocolate brown margin and bearing two erect, divergent black marginal bristles; postscutellum black.

The abdomen is dull black and covered with silvery tomentum; venter brownish; the genitalia red-brown.

The legs: Anterior coxae elongated, light brown and the remaining coxae grey; femora and tibiae light brown, the posterior ones being sometimes dark brown; tarsi black with the basal third of the first segment dark brown.

The wings are hyaline with a narrow brown cross band at the base, one broad and irregular crossing the median cell and another crossing just prior to the wing tip. Halteres yellow-brown.

The female differs from the male in having a slightly broader front, brown halteres with pale yellow apices and a more elongate abdomen which is not silvery pollinose.

Habitat: Mosman (N.S. Wales), 1 male and 1 female, November, 1923 (Mackerras); National Park, 1 male and Mount Tambourine, 2 females (H. Hacker), and 2 females (W. H. Davidson) Queensland.

The pattern of the wings together with the colour of the antennae, legs and thorax readily separate this species from *variabilis*.

#### ECTINORRHYNCHUS BRUNNEUS.

*Ectinorrhynchus brunneus* Krober, Ent. Mitt., 1, p. 157, 1912.

The following is a translation of the original description given by Krober:—

"Female.—Cinnamon-brown throughout. Head much broader than long. Frons above the antennae shining black, the rest with bright brown tomentum. Lower face with silver white pubescence. Antennae bright orange. First segment with soft black bristles; third segment widened in the form of a leaf; style quite short. Thorax with two ill-defined longitudinal lines. Scutellum bright yellow brown, the ground colour velvet black. Abdomen shining orange; the first segment dull. Femora bright orange, the hind pair somewhat darkened at the end. Anterior tibiae whitish, the others pale yellow. Tarsi blackish, anterior metatarsi almost white. Femora bare, tibiae with a few black bristles. Wings with the tip and band blackish. Fourth posterior cell wide open. Length: 10 mm. N.S. Wales."

This species has not been recognised in any of the material examined, but I consider it advisable to give the original description as it is not easily available. The species has not been included in the key, but it should be readily recognised by the shining orange abdomen in conjunction with the banded wings and shining black front.

#### Genus EUPSILOCEPHALA.

*Eupsilocephala* Krober, Ent. Mitt., 1, p. 255, 1912.

Metallic species with the head hemispherical, considerably broader than long and slightly broader than the thorax; occiput broad, convex; eyes separated in the female by twice the width of the ocellar tubercle, large and descending well down on to the cheeks and with the facets uniform in size; the front is broad, bare, slightly raised above the antennae and ornamented with a shallow transverse furrow; antennal tubercle flattened; the antennae are longer than the head with the first segment cylindrical and furnished with numerous bristles and almost equal in length to the third which is slightly broader, oval and furnished with bristles; the second segment is very short and globular; the style is two seg-

mented and elongate; the arista apical and elongate; face and cheeks very small and the latter bearing long thin hairs; the proboscis is thickened and projects as far forward as the middle of the second antennal segment; the palpi are two-thirds the length of the proboscis and slightly enlarged at the apex.

The thorax is convex, only sparsely covered with short hairs and is furnished with but few bristles which are mainly weakly developed; scutellum semicircular and bears two marginal bristles; postscutellum convex and well hidden beneath the scutellum.

The abdomen is hardly twice as long as the thorax, broadly conical with a blunt apex and sparsely covered with short hairs.

The legs are of moderate length and the posterior femora bear two pairs of apical bristles.

The wings are almost twice as long as the abdomen and slightly more than twice as long as broad; vein R4 decumbent for half its length and from thence curving upwards to meet the border well above the wing tip; R5 decumbent and joining the border well below the wing tip; M3 and M4 slightly convergent; 1A is straight and coalesces with Cu1 just before the hind margin; the costa and hind margin ciliated; median cell rather large.

Genotype. *Eupsilocephala singula* Walker.

Krober formed this genus for Walker's *Thereva singula*, but it is evident from his description that he had not seen the species, but characterised his genus from the original description given by Walker; his description of the species contains the essential colour characters only and these are given in Walker's words. Krober states that the antennae are intermediate between *Psilocephala* and *Parapsilocephala* and allies his genus with these two and calls it *Eupsilocephala*. The antennae do not show any affinities to either of the abovementioned genera, which have the antennae shorter than the head with the third segment narrowly or broadly conical. The genus is closely allied to *Anabarrhynchus*, but differs from that genus by having the front bare, slightly raised above the antennae and ornamented with a transverse furrow and by the longer antennae and the less hairy thorax and abdomen.

This is the only known genus of Therevid with metallic colouring which makes it easily recognised.

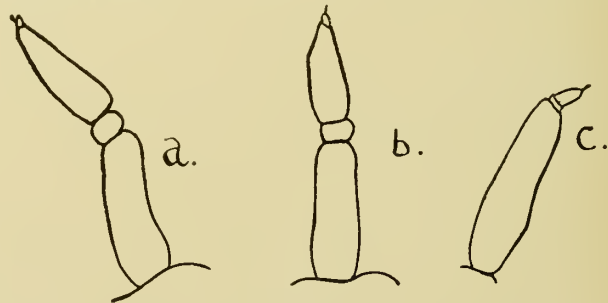


Fig. 1.

- a. Antenna of *Ectinorrhynchus variabilis* Macquart.—Profile view.
  - b. Antenna of *Ectinorrhynchus albimanus* Krober.—Profile view.
  - c. Third antennal segment of *Eupsilocephala singula* Walker.—Profile view.
- (All of same magnification.)



## EUPSILOCEPHALA SINGULA.

*Thereva singula* Walker, List. Dipt. Brit. Mus., 1, p. 227; 1848; *Eupsilocephala singula* Krober, Ent. Mitt., 1, p. 255, 1912.

Length: 14 mm.

*Female*: Head with the occiput shining black in the middle, golden on the sides and furnished with rows of black hairs and bristles; front shining brown-black; antennae dull brown-black, the first two segments bearing numerous black hairs and bristles; the first segment is cylindrical with straight sides, four times as long as the second, which is somewhat globular; the third segment is oval, about the same length as the first and covered with short black hair; the style has its first segment short and its second conical and twice as long as the first; the arista is almost as long as the second segment of the style; face yellow; cheeks blackish and bearing long thin black hairs; the proboscis and palpi are black, somewhat brown at the apices and bearing blackish hair.

The thorax is dark shining blue with blackish reflections; humeral calli, reddish-purple; pteropleura dark shining blue and the remaining pleurae shining black; scutellum dark shining blue with purple reflections and bears two black marginal bristles; the postscutellum is dark black.

The first segment of the abdomen is shining purple and the remaining segments, mainly shining green but with dark shining blue, black and purple reflections; the venter is very metallic, exhibiting black, purple, blue, green and red reflections, but the predominating colour is dark green; the genital spines are black.

The legs are brown-black with all bristles and hairs black.

The wings have the basal cells darkened brown, from thence to the base of the median cell, hyaline, and from thence to the tip dark brown. The halteres are dark brown.

The male is unknown.

A most beautiful species and readily recognised by the metallic colouration; it is the only known species of Therevid with metallic colouring. Walker in his original description noted that the species was allied to *Dasyomma* (STRATIOMYIDAE) to which it does bear a superficial resemblance.

Habitat: Tasmania; no date given (A. Sinson). The type locality is West Australia and the only specimen known to me is in the collection of the South Australian Museum.

## Genus PLATYCARENUM.

*Platycarenum* Krober, Ent. Mitt., 1, p. 243, 1912.

Head broader than the thorax; when viewed from above, longer than broad and considerably flattened and drawn out in front at the base of the antennae presenting a shape distinctly pyriform; occiput broad, convex and with a slight median indentation; the eyes are small and widely separated in both sexes; front broad above and widening towards the antennae where it is generally broader than long, ornamented with two irregular shining black calli; the antennae, in relation to the frontal curve of the head are situated below half its depth, about as long as the head, composed of three primary segments; style two segmented and sub-apical; arista short; face small and tomentose; cheeks small and covered thickly with long, fine hair; proboscis and palpi projecting.

The thorax is convex above and slightly longer than broad; scutellum semi-circular and bears four convergent marginal bristles; postscutellum convex.

The abdomen is flattened above with the first three segments straight sided and the remainder slightly tapering.

The femora bear a pair of apical and a pair of intermediate bristles; the tibiae and tarsi bear numerous bristles and hairs.

The wings are twice as long as broad and considerably longer than the abdomen, hyaline with well defined venation; R4 joins the border well above and R5 well below the wing tip; 1A is straight and coalesces with Cu1 just before the border; M3 and M4 convergent; costa and hind margin ciliated.

Genotype. *Platycarenum quinquevittata* Macquart.

This genus is evidently allied to *Anabarrhynchus* and *Eupsilocephala* and differs from the former by the subapical style, the distinct shining frontal calli and by the more slender shape and longer and more flattened abdomen, and, from the latter, chiefly by the shape of the abdomen, the length of the antennae, position of the style and by the body being thickly clothed with hairs. As with some other of Kroker's genera the genus is erected on somewhat arbitrary characters, but as it is readily distinguished from the other genera I do not consider it advisable to sink the genus as a synonym.

#### PLATYCARENUM QUINQUEVITTATA.

*Thereva quinquevittata* Macquart, Dipt. Exot., suppl. 2, p. 50, 1847; *Thereva arida* Walker, Trans. Ent. Soc. Lond., iv., p. 133, 1857; *Platycarenum porrectifrons* Kroker, Ent. Mitt., 1, p. 244, 1912; *Anabarrhynchus pallidus* White, P. & P. Roy. Soc. Tasm., 1915; *Platycarenum quinquevittata* Hardy, Proc. Linn. Soc. N.S. Wales, xlvii., p. 299, 1921.

Length: 10-12 mm.

*Male*: Head with the occiput yellow-brown and furnished with numerous hairs of a similar colour; the eyes are separated by twice the width of the ocellar tubercle; the front is light yellow-brown and is rather thickly covered with black hair; the first two segments of the antennae are light brown and are furnished with numerous black hairs and bristles, the third segment and the style, black; the first segment is three times as long as the second and considerably broader and is, at its greatest breadth, which is the base, less than one-third as broad as long, straight sided and slightly tapering; the second segment is slightly longer than broad and somewhat globular; the third is half the length of the first, more than twice as long as its greatest width and constricted medianly; the style has the first segment short, three times as broad as long, though not as broad as the third antennal segment; the second segment is somewhat rectangular and considerably longer than broad; arista black; face and cheeks silvery grey and covered with whitish hairs; proboscis brownish and projects as far forward as the middle of the first antennal segment; palpi yellowish, two-thirds the length of the prothoracic and covered with whitish hairs.

The thorax is light yellow-brown dorsally, grey laterally and with three narrow brown longitudinal dorsal stripes; scutellum yellowish-brown.

The abdomen is uniformly greyish and covered with yellowish hairs and tomentum; venter yellowish; genitalia bright yellow.

The legs are wholly yellow; the tibiae and tarsi with some brownish reflexions and bearing numerous black hairs and bristles; the femora are covered with yellowish hairs.

The wings are considerably longer than the abdomen, hyaline with well defined venation; vein R4 decumbent for half its length and then curving upward to meet the wing border; R5 decumbent; M3 and M4 markedly convergent; 1A

straight and coalescing with Cul just before reaching the hind margin. The halteres are yellowish.

The female differs from the male by having the eyes slightly more widely separated, by the absence of the grey on the sides of the thorax and by the abdomen being uniformly light yellow-brown and slightly more pointed and elongate.

Habitat: Woy Woy, N.S.W., 3 ♀, 4th October, 1924 (MacKerras); Tasmania, 8 ♀, 2 ♂ and 2 pairs taken in copula, January-February (G. H. Hardy).

The above synonymy recorded by Hardy in 1921 is evidently correct; the original descriptions will all fit the one species and Macquart's name has priority. The species may be captured in the vicinity of sand hills along the coast and its colouring is clearly protective in such situations. It is unknown from Queensland, but should subsequently be found to occur along the coast of the southern half of that State.

Genus *EVANSOMYIA*, *gen. nov.*

The head is considerably broader than long, broader than the thorax, somewhat flattened above and slightly produced in front; occiput concave; eyes separated in both sexes, slightly more so in the female than in the male, large and descending well down on to the cheeks; front straight, flattened and almost bare; antennal tubercle prominent and bare; antennae considerably longer than the head and inserted, in relation to the anterior curve of the head, below half its depth, approximated at the base with the segments divergent; the first segment is longer than the second and third united, cylindrical, straight sided and bearing numerous bristles; the second is short and globular and the third narrowly conical, shorter than the first and bearing a few weak bristles at the base; style two segmented, the first segment being short and broad and the second tholiform; arista short, fine and subapical; face and cheeks small, the latter bearing long fine hair; proboscis short and thick and projecting as far forward as the apex of the antennal tubercle; palpi half the length of the proboscis.

The thorax is longer than broad, convex above and bears very few bristles; scutellum semicircular and bearing four divergent marginal bristles; postscutellum convex.

The abdomen is twice as long as the thorax, flattened above, tapering in the female and more or less straight sided in the male; the dorsum of the male is covered with silvery tomentum.

The legs: Coxae bear tufts of hairs; the posterior femora a pair of apical and the tibiae and tarsi numerous bristles.

The wings are more than twice as long as broad, but hardly as long as the thorax and abdomen together, tinged, banding very indistinct; R4 meets the border well above and R5 well below the tip; M3 and M4 slightly convergent; Cul coalesces with 1A, which is straight, well before the border; costa and hind margin ciliated.

Genotype. *Ectinorrhynchus phyciformis* White.

This genus is proposed for White's *E. phyciformis* and is apparently very closely allied to *Ectinorrhynchus* on the one hand and *Taenogera* on the other; the two segmented style would place the species in the latter genus, but the shape and length of the antennae together with the silvery pollinose abdomen of the male and the prominent antennal tubercle separates it from that genus. It more closely conforms to the characterisation of *Ectinorrhynchus*, but differs by having a two segmented style and by the elongate antennae with the first segment narrow and cylindrical.

I reluctantly propose this genus in a family which is already over burdened with genera, but the species cannot be satisfactorily placed in any of the genera which have been proposed.

There is a further species, represented by one specimen in the material before me, which may belong here, but the specimen is in too poor a condition for describing.

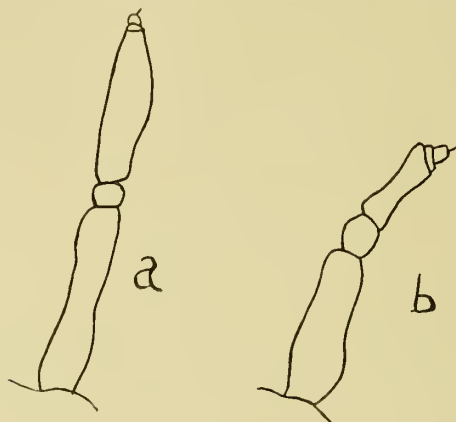


Fig. 2.

- a. Antenna of *Evansomyia phyciformis* White.—Dorsal view.  
 b. Antenna of *Platycarenum quinquevittata* Macquart.—Dorsal view.  
 (Both of same magnification.)

EVANSOMYIA PHYCIFORMIS.

*Ectinorrhynchus phyciformis* White, Proc. Roy. Soc. Tasn., 1915.

Length: 16-12 mm.

*Male*: Head with the occiput deep black and fringed with black hairs and with a central patch of silvery white; eyes separated on the vertex by the width of the ocellar tubercle; front flattened, shining black and with a central transverse band of silvery white which extends in two rather narrow lines down the eye margins to the cheeks; antennal tubercle shining black; antennae divergent, testaceous at the base, from thence to the tip black; the first segment longer than the others united, straight sided, cylindrical and bearing numerous black bristles and hairs; the second segment is short, rounded and flattened at the extremities; the third is straight sided at the base, the apical two-thirds conical and bearing a few black hairs at the base; the style and arista short; face shining black; cheeks very small and silvery grey; proboscis chestnut-brown and projecting only slightly; palpi brownish at the base, yellowish at the apex and about half the length of the proboscis.

The thorax is hardly twice as long as broad, about as deep as long, dull black on the dorsum and with the sides deep shining black; ornamented with two convergent yellowish longitudinal dorsal stripes which are confluent on the basal third, forming a rectangular area; the scutellum is dark orange with the apex bright yellow and furnished with four black marginal bristles; postscutellum blackish.

The abdomen is straight sided but tapers slightly towards the apex; uniformly orange-red with segments 2-6 silvery pollinose; genitalia orange-red.

The legs: Coxae light orange, covered with silvery tomentum; anterior and intermediate femora light orange, posterior femora orange red; anterior and intermediate tibiae dark yellow, the posterior ones having the basal half brown with blackish reflections and the apical half blackish; tarsi with basal half of first segment dirty white; the posterior femora bear a pair of black apical bristles.

The wings are more than twice as long as broad but hardly as long as the thorax and abdomen together, tinged brownish and with a faint trace of a darker band which crosses the apex of the median cell. Halteres bright yellow.

The female differs from the male by the slightly broader front, the absence of the silvery white transverse frontal stripe, the longer and sharper pointed abdomen which is not silvery pollinose and by the longer wings.

White's type, male and female in G. H. Hardy's collection, Brisbane.

Habitat: Tasmania, Victoria and Blackheath, N. S. Wales, January.

#### Genus TAENOGERA.

*Taenogera* Krober, Ent. Mitt., 1, p. 151, 1912.

Head broader than long, slightly broader than the thorax, subhemispherical or somewhat pyriform; occiput concave or flat and with a median indentation; eyes separated in both sexes; front broad, convex or flattened, sculptured or indented and hairy; antennal tubercle flattened; antennae, in relation to the anterior curve of the head are situated below half its depth, composed of three primary segments the third of which, when viewed in profile is broadly and evenly conical, but when viewed dorsally is often straight sided and tapering and is longer than the first and second segments united; face and cheeks small. the former tomentose or bare and the latter furnished with long thin hair; procoxis and palpi projecting slightly.

The thorax is convex above, considerably longer than broad; scutellum semi-circular and bearing from 2-6 marginal bristles; postscutellum convex.

The abdomen is attenuated or narrowly conical, constricted in the middle or straight sided, flattened or cylindrical.

The wings are considerably longer than broad, banded or clouded with a distinct stigma; R4 joins the border well above or slightly above the tip and may be wholly decumbent or for part of its length only and then curving upward; R5 joins the border well below the wing tip; M3 and M4 slightly convergent; Cu1 coalesces with 1A, which may be straight or concave, well before, just before or at the hind margin; costa and hind margin ciliated.

The legs: Coxae are furnished with rows of hairs or bristles; the femora generally bear a pair of apical bristles and the tibiae and tarsi are furnished with numerous bristles and hairs; the first segment of the tarsi is often almost as long as the tibiae.

Genotype. *Taenogera nitidus* Macquart.

Distribution: The typical species together with *latistria* is known from Sydney only; *superbus* from N. S. Wales and Queensland; *gracilis* and *notati-thorax* from Queensland and *nigrapicalis* from South Australia.

In this genus is placed a heterogeneous collection of species which could probably be split into one or two additional genera, but I consider this inadvisable at the present time; *superbus* Schiner, more readily conforms to the characterisation of this genus and has therefore been transposed from *Ectinor-*

*rhynchus*. *Anabarrhynchus latistria* Walker, is also placed here, bringing the total number of species to six, which number includes the three described as new.

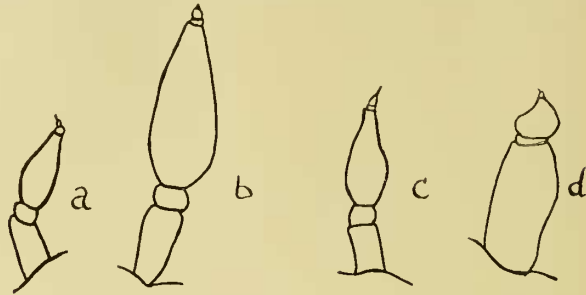


Fig. 3.

- a. Antenna of *Taenogera nitidus* Macquart.—Profile view.  
 b. Antenna of *Taenogera superbus* Schiner.—Profile view.  
 c. Antenna of *Taenogera nigrapicalis* sp. nov.—Profile view.  
 d. Antenna of *Neodialineura striatithorax* sp. nov.—Profile view.

*Key to the Species of Taenogera*, Krober.

- |   |                              |
|---|------------------------------|
| 1. Abdomen entirely black. . . . .  | 2.                           |
| Abdomen not entirely black. . . . .   | 3.                           |
| 2. Wings banded; with golden yellow apex in female. . . . .   | <i>superbus</i> Schiner      |
| Wings not banded; tinged brown only . . . . .   | <i>nitidus</i> Macquart.     |
| 3. Apex of abdomen black. . . . .   | 4.                           |
| Abdomen entirely dull orange . . . . .  | <i>gracilis</i> sp. nov.     |
| 4. Abdomen attenuated; thorax with golden yellow stripes and spots<br>or golden spots only. . . . . | 5.                           |
| Abdomen narrowly conical; thorax with greyish stripes. <i>nigrapicalis</i> sp. nov.                 |                              |
| 5. Abdomen chestnut and black; thorax with golden yellow stripes and<br>spots. . . . .              | <i>latistria</i> Walker.     |
| Abdomen orange and black, thorax with golden spots only. . . . .                                    |                              |
| . . . . .   | <i>notatithorax</i> sp. nov. |

TAENOGERA NITIDUS.

*Anabarrhynchus nitidus* Macquart, Dipt. Exot., suppl. iv., p. 100, 1850; *Taenogera longa* Krober, Ent. Mitt., 1, p. 151, 1912.

Length: 9-12 mm.

*Male*: Head considerably broader than long; occiput concave, greyish and covered thickly with whitish hairs; ocellar tubercle prominent; eyes separated on the vertex by slightly more than the width of the ocellar tubercle; front shining black, ornamented with a few irregular grooves and carina and bearing some scattered whitish hairs; the antennae are dark brown or blackish brown, separated at the base, the apex of the first segments contiguous and the remaining segments widely divergent; the first segment is three times as long as, and broader than, the second which is more or less globular; both these segments bear numerous black bristles and hairs; the third segment is conical and longer than the first and second together; the style has its first segment somewhat straight sided and slightly longer than the second which is tholiform; the arista is subapical and is

slightly more than half the length of the style; face yellow-grey; cheeks grey and bearing whitish hairs; proboscis black and projecting as far forward as the second antennal segment; the palpi are brownish, bear blackish hairs and are two-thirds the length of the proboscis.

The thorax is shining or dull black with two broad yellowish longitudinal stripes which extend for half the length of the dorsal surface only; and with a further median dorsal yellowish area just in front of the scutellum; pleurae shining black and covered with grey tomentum; scutellum dull black and bearing 6 yellowish marginal bristles; postscutellum dull black.

The abdomen is shining black, somewhat constricted in the middle, the 2-4th segments each have a triangular silvery-white area on the sides and segments 1-4 have their hind margins brown; venter dull black; genitalia red-brown or yellow-brown.

The legs: Coxae black, covered with grey tomentum and bearing rows of whitish hairs; femora black or black-brown; anterior tibiae dark brown or black, remaining tibiae light brown but somewhat darkened at the apices; anterior tarsi dark brown or black, remaining tarsi light brown.

The wings, except for the hyaline base, are tinged brown; R4 decumbent for the whole of its length and joining the margin slightly above the wing tip; Cu1 coalesces with 1A, which is distinctly concave, slightly before the margin; costae and hind margin ciliated.

The female differs from the male only in having the eyes slightly more widely separated and by the broader and more regular front.

Habitat: Sydney (N.S. Wales) 3 males and 1 pair taken in copula, September and October (G. H. Hardy).

The synonymy recorded above appears to be correct; Krober erected the genus on one specimen (a female) from "Australia" in 1912 and the type was lodged in the Hamburg Museum, but Macquart, in 1850, described the species from 4 males and 5 females and placed it in the genus *Anabarrhynchus*.

The species is separated from all other members of the genus by the uniformly black colour together with the brown tinged wings.

*TAENOGERA NIGRAPICALIS* sp. nov.

Length: 10 mm.

*Female*: Head broader than long; occiput concave, greyish-black, and covered with rows of black bristles and hairs; eyes separated on the vertex by slightly more than the width of the ocellar tubercle and from thence gradually diverging; the front is somewhat flattened, black with grey eye margins, covered with black hairs and ornamented with two indistinct transverse furrows; antennal tubercle flattened, black; antennae black, separated at the base, first segments convergent, remainder widely divergent; the first segment is densely covered with black bristles and is four times as long as the second which is globular and similarly covered with black bristles; the third segment is longer than the first and second together and broader than either of them, more or less conical and covered with fine black hair; the style has its first segment broader than long and with the apex deeply concave into which the second segment, which is conical and about twice as long as the first, is received; the arista is short and thick and hardly as long as the first segment of the style; face and cheeks grey, the former covered with short black hairs and the latter with black and whitish hairs; proboscis brown, directed upwards and reaching the apex of the first segment of the antennae; palpi yellow-brown, as long as the proboscis and covered with whitish hairs.

The thorax is black with a patch of greyish on each humeral callus and with two dorsal longitudinal stripes of the same colour which converge as they extend towards the scutellum; there are two rows of 6 dorsocentral, black bristles; pleurae dull black and covered with grey tomentum; scutellum black and bearing 4 black marginal bristles; postscutellum black.

The abdomen is slightly more than twice as long as the thorax and is narrowly conical, covered with black hairs, mainly orange but the first segment is grey, the three apical ones shining black and the posterior margins of segments 2-5 are silver grey; the ventral surface of the first 6 segments is orange and the remainder shining black; genital spines reddish and very weakly developed.

The legs: Coxae black, covered with grey tomentum and bearing black bristles distributed as follows:—A pair on the anterior, 4 pairs on the intermediate and a single one on the posterior; femora light orange, covered with white hairs and the posterior pair are furnished with a pair of black apical bristles; the tibiae and the first tarsal segments, dark orange, covered with black hairs and bristles and the remaining tarsal segments, black.

The wings are tinged dark brown; R4 is decumbent for two-thirds of its length and from thence is curved upwards meeting the border well above the wing tip; M3 and M4 slightly convergent; costa ciliated. The halteres are pale yellow.

The male is unknown.

A somewhat aberrant species differing from the other members of its genus by the narrowly conical abdomen and by possessing the row of dorsocentral bristles. It is easily identified by the orange abdomen in conjunction with the grey longitudinal stripes on the thorax.

The holotype female is unique, was captured at Karoonda, South Australia, by G. E. H. Wright (no date given), and is in the South Australian Museum.

#### TAENOGERA SUPERBUS.

*Ectinorrhynchus superbus* Schiner, Reise Novara Dipt., p. 150, 1868; *Ectinorrhynchus viduus* Schiner, *Id.*, 1868; *Ectinorrhynchus superbus* Krober, Ent. Mitt., 1, p. 151, 1912; *Ectinorrhynchus viduus* Krober, *Id.*, 1912; *Anabarhynchus kinbergia* Thomson, Eug. Resa Dipt., p. 478, 1868.

Length: 10 mm.

*Male*: Head somewhat produced in front; occiput black at the eye margins above and with a row of stiff black hairs, and the remainder, as far as visible, silver-grey; eyes separated on the vertex by the width of the ocellar tubercle and from thence gradually diverging; front considerably flattened, velvety brown-black below the vertex for half the length and from thence to the base of the antennae, somewhat shining black and ornamented with indistinct longitudinal striae and with the eye margins dirty white to below the antennal tubercle which is somewhat shining black; the immediate base of the antennae is dirty white; antennae hardly as long as the head, contiguous at the base, the first segments parallel and the remainder widely divergent; the first segment is brown, parallel sided and bears numerous black bristles; the second is orange, hardly as long as its greatest width and also bearing numerous black bristles and hairs; the third is orange, more than twice as long as the first and second united, three times as long as its greatest width which is about one-third the distance from the base and with the apical two-thirds conical, but when viewed in profile, is broadly conical and much broader than either the first or second segments, bears a few stiff black hairs at the base; the style has its first segment short and convex at



the apex and its second somewhat tholiform; the arista is short and thick, being as long as its greatest width; face black; cheeks very small, black below, silvery grey above and bearing long fine whitish hairs; proboscis brownish black and projecting as far forward as the apex of the second antennal segment; palpi brown and two-thirds the length of the proboscis.

The thorax is hardly twice as long as broad and is almost three times as long as the head, black with greyish pubescence and with a broad velvety black dorsal stripe which extends from immediately behind the head for one-third of the length of the dorsal surface; pleurae black and covered with greyish tomentum; scutellum velvety brown-black with the apex grey and bearing two convergent marginal bristles; postscutellum black.

The abdomen is twice as long as the thorax; black with some greyish pubescence on the hind margins of the first four segments and strongly constricted in the middle; venter dull black; genital forceps of the male conspicuous.

The legs are wholly black except for the anterior tibiae which are yellow-brown and the base of the first posterior and intermediate tarsal segments which are dirty white; the coxae bear rows of stiff hairs; the posterior femora bear a pair of black apical bristles and the tibiae and tarsi numerous black bristles and hairs.

The wings are about four times as long as broad and about the same length as the thorax and abdomen united; faintly tinged with grey and with an irregular, narrow, blackish brown band crossing the base of the median cell and a further broad similarly coloured cross band extending from the apex of the median cell to the wing tip; R4 decumbent for two-thirds its length and from thence curving upward; R4 and R5 slightly convergent; Cul coalesces with 1A, which is straight, well before the margin; costa and hind margin ciliated.

The female differs from the male by having golden pubescence in place of dirty white on the head, the striae of the frons being more distinct, the thorax possessing some brownish pubescence which is absent on the male, the abdomen being more elongate and sharper pointed and possessing bright reddish hairs near the apex, the broader and more regular median cross band, the second black band extending only for one-third of the distance from the base of the median cell towards the apex, the wing being from thence golden yellow and fringed narrowly with black at the apex and by having the second segment of the style more elongate. The genital spines are red.

Habitat: Brisbane, Bunya Mountains, National Park and Mount Tambourine, Queensland; Gravesend, Richmond River, New South Wales; September-January.

Schiner described the male of this species under the name *E. viduus* and the female as *E. superbus*; Krober suggested that *viduus* was possibly the other sex of *superbus* and two pairs taken in copula by G. H. Hardy prove that Krober's suggestion was correct. The species has been transposed from *Ectinorrhynchus* as it seems to naturally conform to *Taenogera*. The general black colouration together with the banded wings readily separate the species from all other members of the genus.

*TAENOGERA GRACILIS* sp. nov.

Length: 12-13 mm.

*Female*: Occiput yellow-brown and furnished with rows of similarly coloured bristles and hairs; eyes separated on the vertex by slightly more than the width of the ocellar tubercle which is oval and slightly raised; front brown becoming somewhat yellow-brown towards the antennae and ornamented with a median transverse furrow; antennal tubercle flattened; the antennae are orange, slightly

separated at the base, the first segments convergent and the remainder divergent; the first segment is hardly twice as long as broad and is slightly more than twice as long as the second which is somewhat globular, and both are furnished with numerous dark orange bristles; the third segment is narrower than the second, longer than the first and second united and is narrowly and irregularly conical; the style has its first segment almost as long as the second segment of the antennae and its second segment is conical and twice as long as the first; the arista is one-third the length of the style; face and cheeks yellow-brown; proboscis dark orange; palpi yellowish.

The thorax is dull orange-brown, with a broad blackish longitudinal dorsal stripe and with the humeral calli light orange; the pleurae are dark orange-brown; scutellum orange with a blackish median patch and bearing two dark orange marginal bristles; postscutellum dark orange.

The abdomen is two and a half times as long as the thorax and is uniformly dull orange, covered with yellowish hairs; the venter is dark orange; genital spines yellowish and very weakly developed.

The legs are light orange with the tarsi somewhat blackish; the coxae are furnished with weak orange bristles as follows:—4 on the anterior, 6 with some hairs on the intermediate and 2 on the posterior; the posterior femora bear a pair of orange median bristles.

The wings are tinged brownish; R4 is decumbent for two-thirds of its length and from thence is curved upward, meeting the border well above the wing tip; M3 and M4 convergent; 1A straight; Cu1 coalesces with 1A just before the hind margin is reached; costa and hind margin ciliated. The halteres are yellowish and somewhat darkened towards their apices.

The male is unknown.

Habitat: Mount Tambourine, Queensland (W. H. Davidson), 2 females—no date given. The holotype and paratype in the Queensland Museum.

This species is evidently closely allied to *latistria* and *notatithorax* but can be readily separated by the uniform dull orange colouration.

#### TAENOGERA LATISTRIA.

*Xylophagus latistria* Walker, List. Dipt. Brit. Museum, 1, p. 130, 1848; *Anabarrhynchus longus*, Schiner, Resa Novara Dipt., p. 149, 1868; *Id.*, Krieger, Ent. Mitt., 1, p. 217, 1912.

Length: 12-14 mm.

*Female*: Head slightly broader than long; occiput pale golden yellow and beset with dark yellowish hairs and bristles; eyes separated on the vertex by twice the width of the ocellar tubercle, from thence widely diverging; front broad, deep shining black, bearing scattered reddish yellow hairs and ornamented with two distinct depressions, one of which is situated just below the vertex and the other just above the antennae after which there is a transverse, indistinctly bilobed carina which joins the antennal tubercle which is flattened and covered with pale golden yellow pubescence; antennae separated at base, first segments convergent and the remainder widely divergent, shorter than the head, light orange, with some pale golden yellow pubescence on the first and second segments; the first segment is twice as long as the second, short and thick, parallel sided and furnished with numerous black bristles and hairs; the second is almost globular, and likewise bears numerous black bristles and hairs; the third segment is three and a half times as long as the second and longer than the first and second united, when viewed dorsally it is bulbous at the base and practically straight sided from thence to the apex but with a slight inward curve, but when

viewed in profile it is broadly conical and much broader than either the first or second segment; style black with its first segment small, considerably broader than long and hardly as wide as the apex of the third segment of the antennae, while its second segment is twice as long as broad, considerably narrower than the preceding, tapering and rounded at the apex; the arista is elongate and tapering; face and cheeks pale golden yellow; proboscis black-brown, projecting as far forward as the apex of the first antennal segment and bearing black and yellowish hairs; palpi light orange, bearing black and yellowish hairs and projecting slightly beyond the apex of the proboscis.

The thorax is longer than broad, shining black with a pale golden yellow area of pubescence on each side anterior to the wing insertions; situated just inside of the humeral callus on each side there is a somewhat rectangular patch of golden yellow pubescence which is contiguous with two stripes of the same colour extending for two-thirds of the length of the dorsal surface; scutellum dark shining orange and bearing two black marginal bristles; postscutellum shining black.

Abdomen covered with black and whitish hairs, more than twice as long as the thorax; the first segment is shining black, the second and third dark shining chestnut with black reflections laterally and with hind margins broadly silver-white, interrupted in the centre; the fourth is shining black with a lateral area of dark shining orange; the remaining segments shining black with some dark orange reflections towards the apex; venter of the three basal segments dark orange and that of the remainder deep black; genital spines reddish.

Legs: Coxae blackish-brown; femora deep shining orange, the posterior pair being somewhat darker and bearing a pair of apical and similarly coloured bristles; tibiae and tarsi blackish brown.

The wings are more than twice as long as broad and slightly longer than the abdomen; tinged brown, especially on the apical half; R4 curved upwards for half its length, from thence curved inward and meeting the border well above the wing tip; M3 and M4 slightly convergent; Cu1 coalescing with 1A at the hind margin and the latter vein is slightly concave; costa and hind margin ciliated. The halteres are yellow.

The male is unknown to me.

Habitat: Hornsby (New South Wales), November, 1916 (R. J. Tillyard).

This species was first described by Walker and placed in the genus *Xylophagus* (LEPTIDAE) but it most certainly is not a Leptid. *Anabarrhynchus longus* Schiner is evidently the same as this species. In general structure *latistria* is apparently allied to *gracilis* and *notatithorax*, both of which are herein described as new, but can be easily separated by the chestnut and black abdomen in conjunction with the golden yellow thoracic stripes.

TAENOGERA NOTATITHORAX *sp. nov.*

*Male*: Occiput shining black with eye margins silvery grey a little below the head vertex and bearing rows of black and dark orange bristles and hairs; eyes separated on the vertex by slightly more than the width of the ocellar tubercle which is oval and prominently raised; front deep shining black with indications of a transverse furrow and adorned with a few scattered dark orange hairs; antennal tubercle flattened; antennae dark orange, hardly as long as the head, separated at the base, first segments convergent, remainder widely divergent; the first segment, when viewed dorsally is broader than the second and third and is considerably longer than the second but slightly shorter than the third and is furnished with numerous black bristles and hairs; the second segment is almost

globular and is also furnished with numerous black hairs and bristles; the third segment is almost as long as the first and second united and viewed dorsally, is narrow and tapering but when viewed in profile it is broadly conical and considerably broader than the first and second segments; the style has its first segment somewhat globular and its second elongate and conical, it being almost as long as the first segment of the antennae; arista black, one-third the length of the style; face pale golden yellow; cheeks greyish and bearing long thin orange hairs; proboscis orange-brown and bearing blackish and orange hairs; palpi bright orange and bearing dark orange hairs.

The thorax is shining black with two, somewhat rectangular, areas of bright golden pubescence on the anterior margin just inside of the humeral calli and immediately behind the head and further similarly coloured areas or spots situated as follows:—Two small median dorsal, one large on each side just prior to the wing insertions and two contiguous with the scutellar suture; pleurae shining black with four areas of pale golden pubescence; the scutellum is orange and bears two elongate orange bristles; postscutellum shining black; thoracic bristles black and dull orange.

The first segment of the abdomen is shining black with the hind margin dark shining orange; second and third segments dark shining orange with a white triangular area of pubescence on each side and contiguous with the hind margin; the remaining segments deep black; venter similarly coloured; genitalia reddish.

The legs: Coxae, femora and tibiae pale orange with the anterior tibiae black towards the apices; the femora bear a pair of orange apical bristles.

Wings tinged yellowish, but somewhat brownish towards the apex; venation similar to *gracilis*; Halteres bright yellowish.

The female is similar to the male except for having the eyes slightly more widely separated, the frontal transverse furrow more distinct and the thoracic spots and abdominal segments paler in colour.

Habitat: The species is known from a single pair taken at Mount Tambourine, Queensland, by W. H. Davidson—no date given.

A slender species which is evidently allied to *latistria* but it is much more slender than that species and can be readily separated therefrom by the abdomen being coloured orange and black in contrast to the chestnut and black and by the absence of the dorsal stripes on the thorax.

Holotype and allotype in the Queensland Museum.

#### Genus BELONALYS.

*Belonalys* Krober, Ent. Mitt., 1, p. 124, 1912; *Id.*, Hardy, Proc. Linn. Soc. N.S. Wales, xlv., p. 298-9, 1921.

Genotype. *B. obscura* Krober, New South Wales

The following is the original description given by Krober:—

"Die Gattung ist ausserordentlich charakteristisch durch den Bau der Flügel. Die Diskoidalzelle wird bei allen andern Gattungen der Thereviden an der Basis z. T. von der hintern Basalzelle begrenzt; beide Zellen haben also eine Querrader gemeinsam. In dieser Gattung stösst dagegen die Diskoidalzelle als geschlossene, sehr spitz Zelle an die obere Ecke der hintern Basalzelle an, ohne also mit ihr eine Querrader gemeinsam zu haben. Infolgedessen erscheint die vierte Hinterflanzelle ausserordentlich lang und breit und die sie hintern begrenzende Langsader läuft gerade von der hintern Basalzelle zum Rand. Der Kopf ist fast kugelig. Die Fühler sind sehr kurz. Sie erinnern an die von *Psilocephala laticornis* Lw. Der Hinterleib ist kurz, walzig.—Da die vierte und fünfte Langsader fast nebeneinander aus derselben oberen Ecke der Diskoidalzelle entspringen, so nähert sich die Gattung dadurch der palaarktischen Gattung *Hermannia* Krob.—Die mir vorliegenden Arten stammen von Neussudwales."

I have failed to recognise this genus and am doubtful if it can be considered valid. White notes that certain of his species of *Psilocephala* have a venation almost the same as this genus and it appears that Krober's primary character for founding same was that the two veins which bound the median cell, on the anterior and on the posterior side, rise from the cell R. in an acute angle.

Two species have been placed in the genus and I append a translation of the original descriptions to aid in their identification; it is possible that they may be the two sexes of the one species as one is described from a male and the other from a female, and, according to the descriptions, they do not differ to any great extent from each other.

#### BELONALYS OBSCURA.

*Belonalys obscura* Krober, Ent. Mitt., 1, p. 125, 1912.

*Male*: Dark brown with scanty white and black pubescence. Frons moderately broad. Antennae very short, the third joint bulb-shaped; back of the head black above, white haired below. The whole body has black pubescence above and white below. Legs dark brown, tibiae and base of metatarsi somewhat brighter. Wings tinged with grey; stigma dark brown. Length: 6 mm., Mount Victoria, New South Wales.

#### BELONALYS GRACILENTA.

*Belonalys gracilentata* Krober, Ent. Mitt., 1, p. 148, 1912.

*Female*: Similar to the foregoing species but is of a very slender form. Head almost globular. Antennae very short, dark brown. Thorax dark brown with traces of two lighter lines. Abdomen dull dark brown with the seventh and eighth segments shining, especially the eighth. Femora dull dark brown, the knee bright yellow brown. Tibiae and tarsi somewhat brighter than the femora. Wings short, small, tinged with dark grey. Length: 5 mm., Springwood, New South Wales.

#### Genus NEODIALINEURA *gen. nov.*

Small slender species with head distinctly pyriform but broader than long; occiput deeply concave; eyes with a transverse furrow, approximated in the male, widely separated in the female; front bare, broad in female, narrow in male; the antennal tubercle is prominent and divided medianly by a furrow making it distinctly bilobate; the first segment of the antennae is greatly swollen, twice as long as the remainder united and bearing numerous stiff hairs and bristles; the second segment is very short but bears numerous long hairs and bristles; the third segment is broadly conical, one-third the length of the first and furnished with short hairs; style one segmented; arista fine, one-third the length of the style; face and cheeks small, the former pubescent only and the latter furnished densely with fine, long hairs; proboscis projecting as far forwards as the apex of the first antennal segment, spatulate and bearing numerous hairs; palpi very short.

The thorax is strongly convex above and very little longer than broad; scutellum semicircular and bearing two marginal bristles; postscutellum hidden beneath the scutellum.

The abdomen conical, twice as long as the thorax in the female and about one and a half times as long in the male.

The legs of moderate length; the coxae each bearing an apical, the femora with a pair of apical and the tibiae and tarsi bear numerous bristles.

The wings are spotted, as long as the abdomen in the male but shorter in the female, comparatively broad, venation normal except that *Cu*<sub>1</sub> coalesces with

1A well before the wing margin; and sometimes M1 and M2 rise together from the median cell; stigma conspicuous; costa and hind margin ciliated.  
Genotype. *Neodialineura striatithorax*.

Distribution: The type species is known from Queensland only. The genus is closely related to the American genera *Tabuda* Walker, and *Dialineura* Rondani, but differs from the former in having the eyes of the male closely approximated and from the latter chiefly by having a one segmented antennal style.

I have a second species before me, represented by one specimen taken in Brisbane which could be placed in this genus, but, as the specimen is somewhat greasy, I refrain from describing it until more are available.

The genus is readily recognised by the bilobate antennal tubercle and the greatly swollen first antennal segment.

NEODIALINEURA STRIATITHORAX *sp. nov.*

Length: 5 mm.

*Male*: Occiput yellow-brown, somewhat grey-brown medianly and bearing rows of black hairs and bristles; eyes separated on the vertex by the width of the ocellar tubercle, converging slightly below this to the base of the antennal tubercle from whence they diverge widely; front yellow-brown and bearing a few black stiff hairs and ornamented with a black-brown spot which is situated at the base of the antennal tubercle; the antennal tubercle is yellow-brown, divided in the centre by a longitudinal furrow which is black-brown, on either side of this furrow is a large shining black, bare spot; the antennae are brown and all the bristles and hairs are black; the first segment is twice as long as the remainder united, slightly more than one-third as broad as long, straight sided and concave at the apex into which is received the second segment which is very short and cupuliform; the third segment is one-third the length of the first, broadly conical, very slightly longer than its greatest breadth and furnished with short hairs; the style is one-fifth the length of the third segment of the antennae and somewhat rectangular; the arista is one-third the length of the style; face brownish; cheeks greyish and bearing similarly coloured hairs; proboscis and palpi brownish.

The thorax is brown, ornamented with seven dark brown longitudinal dorsal stripes, the centre one of which is regular and the remainder interrupted, forming a chain of rectangular spots; the sides are ornamented with dark brown and irregular short stripes; pleurae greyish brown; scutellum brown with a dark shining brown median spot and bearing two black marginal bristles.

The abdomen is dark brown dorsally and yellow-brown on the sides and covered with black hairs; venter mostly yellow-brown; genitalia pale brown.

Legs mainly brown; coxae greyish; apices of femora, tibiae and tarsi, black.

Wings mottled dark brown; M1 and M2 sometimes arising together from the median cell but generally slightly separated at their origin; 1A straight; Cn1 coalesces with 1A well before the hind margin is reached. The halteres are pale brown.

The female differs from the male by the widely separated eyes, the broad front which is ornamented with two dark brown stripes which are contiguous just below the ocellar tubercle and thence widely diverging (forming a "V.") and also with some dark brown spots, the darker coloured antennae and by the more elongate and sharp pointed abdomen.

The Holotype, National Park, 25/10/23 (H. Hacker) and Allotype, Mount Tambourine (W. H. Davidson) together with 3 female Paratypes in the Queensland Museum; a pair of Paratypes in the author's collection and a further 2 female Paratypes in G. H. Hardy's collection, Brisbane.

Habitat: Brisbane, 2 females, September and October, 1926 (G. H. Hardy) and 1 male, October 6, 1914 (H. Hacker); National Park, 1 male and 3 females, October 3, 1923 (H. Hacker); Mount Tambourine, 2 females (W. H. Davidson), Queensland.

The species is easily recognised by the general brown colouration, mottled wings, small size and greatly swollen first antennal segment.

Genus ANABARRHYNCHUS.

*Anabarrhynchus* Macquart, Dipt. Exot., suppl. 3, 1848.

Stout, robust species with the head as broad as, or broader than the thorax, generally broader than long but sometimes as long as broad, never longer than broad; the occiput is often bilobate, being divided by a median indentation or sulcus and is furnished with numerous black bristles which are sometimes arranged in more or less regular rows; eyes bare, separated in both sexes, slightly more so in the female than in the male, relatively large, oval, descending well down on to the cheeks, separated on the vertex by the width of the ocellar tubercle or by slightly or considerably more than this, the anterior margin may be straight, convex or concave, facets uniform; front broad in both sexes, convex, ornamented with two median spots which may be indistinct or confluent, sometimes the front is divided longitudinally by a furrow, covered with numerous stout hairs and pubescence; antennal tubercle flattened; antennae shorter than or as long as the head, separated, approximated or contiguous at the base with the apices of the first segments converging and often touching, the remaining segments are always widely divergent, composed of three primary segments, the third bearing a two segmented style which is furnished with a short thick arista; the first and second segments each bear numerous black bristles and hairs and the former is cylindrical and rather thick and the latter more or less globular and flattened at the extremities; the third segment is more or less conical and when viewed dorsally is seldom broader than the basal segment but when viewed in profile, is invariably broader than same; the style is broadly or narrowly conical, sometimes nearly half the length of the third segment of the antennae, its first segment is much shorter than its second; face bare or tomentose only; cheeks small, receding and densely furnished with long fine silky hair; the proboscis is short and thick, projects forwards and upwards and often lies close against the mouth aperture; the palpi are slightly enlarged at the apices.

The thorax is stout, convex and provided with 3-5 pre-alar, 2-4 supra-alar and 4 pre-scutellar bristles, all of which are black; some of the pleurae bear tufts of hairs in most species; the scutellum is large, semicircular and bears four black marginal bristles (six in *rufipes*); the postscutellum is convex and well hidden beneath the scutellum.

The abdomen is stout and broadly conical, flattened dorsally and hardly more than twice as long as the thorax, hairy, but without bristles.

The legs are stout; the tibiae and tarsi bear numerous rows of bristles and the femora bear a pair or two pairs of apical and, or, a row of intermediate bristles.

The wings are large, broad, sometimes tinged but never banded; R4 sinuous and joins the border well above the wing tip, R5 well below; M1 and M2 widely divergent; M3 and M4 slightly convergent; 1A curved or straight; Cu1 coalesces with 1A well before, near to, or at the margin; costa and hind margin ciliated; pterostigma present and conspicuous; costa slightly inflated (distinctly so in *passus*).

Genotype. *Anabarrhynchus fasciatus* Macquart.

Range: Madagascar, Chile and Australasia.

Distribution: The species are mostly local in their haunts; of the Australasian species, ten are confined to New Zealand, five to New South Wales, three to Queensland and five to Tasmania. Two species extend from Tasmania to southern Queensland, two are known from New South Wales and Queensland, and two occur both in Tasmania and New South Wales and the remaining three, which I have failed to recognise, were originally described from "Australia." *A. montanus* and *calceatus* have been re-recorded from New Zealand but I am doubtful of the correct determination of these. Krober recorded *fasciatus* from North Queensland, but I have not seen specimens of this species from Queensland.

The genus comprises a number of closely allied species which are difficult to separate, there being but few available structural differences for specific determination. Chaetotaxy is of more value here than in any other genera as the variation appears to be constant for the species, whereas in most of the other genera of the family the variation is individualistic. An important character has been found by comparing the width of the eye separation on the vertex in the various species and often the shape of the anterior margin of the eye affords a good specific character. Apart from these, reliance has to be placed on colour variations.

Thirty-nine species have been referred by various authors to this genus. Of these, ten are confined to New Zealand, five to Chile, one to Madagascar and four have been removed to other genera, leaving nineteen species for Australia and Tasmania. Three new species for the genus are described in the following pages, bringing the total to twenty-two. Macquart and Thomson referred four species to *Thereva* which will in all probability have to be placed in *Anabarrhynchus* when they are recognised.

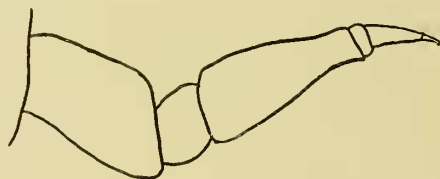


Fig. 4.

Antenna of *Anabarrhynchus* sp.

*Key to the Species of Anabarrhynchus.*

- |   |                              |
|---|------------------------------|
| 1. Thorax and abdomen shining black . . . . .                             | 2.                           |
| Thorax and abdomen not so coloured . . . . .                              | 3.                           |
| 2. Wings mostly black . . . . .   | <i>argenteus</i> sp. nov.    |
| Wings hyaline, veins faintly marked . . . . .                             | <i>latifrons</i> Macquart.   |
| Wings brown, veins distinctly marked . . . . .                            | <i>maritimus</i> Hardy.      |
| 3. Costa conspicuously inflated . . . . .                                 | <i>passus</i> White.         |
| Costa slightly inflated only . . . . .                                    | 4.                           |
| 4. Sides and venter of abdomen reddish orange; legs unicoloured . . . . . | 5.                           |
| . . . . .   | <i>abdominalis</i> Krober.   |
| Not so coloured . . . . .   | 5.                           |
| 5. Sides of abdomen furnished with long pale golden pubescence . . . . .  | 6.                           |
| . . . . .   | <i>aureovillosus</i> Krober. |
| Abdomen not so furnished . . . . .  | 6.                           |



6. Thorax yellow with an olive reflection . . . . . *flavus* sp. nov.  
 Thorax not so coloured . . . . . 7.
7. All femora mainly black . . . . . 8.  
 Anterior femora only, wholly black . . . . . 10.  
 Anterior femora coloured otherwise . . . . . 11.
8. Anterior margins of eyes converging slightly below ocellar tubercle; tibiae and tarsi brown . . . . . *fasciatus* Macquart.  
 Anterior margins of eyes straight . . . . . 9.
9. Tibiae and tarsi clear yellow; front wholly brown; wings tinged yellow. . . . . *helvenacus* White.  
 Tibiae and tarsi yellow-brown; front yellow-brown on the vertical two-thirds, remainder yellow; wings brown . . . . . *cinereus* Krober
10. Apical half of remaining femora red-brown; lower fourth of front yellow, anterior margins of eyes straight; thorax brown with three stripes. . . . .  
 . . . . . *terrenus* White.  
 Remaining femora red-brown except for black side stripes on the intermediate and a black understripe on the hind; lower fourth of front yellow; anterior margins of eyes convex; thorax grey-brown with five stripes. . . . .  
 . . . . . *calceatus* Schiner.  
 Remaining femora brown except for the black undersides of the basal half; lower third of front white; anterior margins of eyes straight; thorax grey with three stripes . . . . . *tristis* Bigot.
11. Thorax with three broad dark brown stripes . . . . . 12.  
 Thorax with five, more or less distinct stripes, which, in comparison, are not nearly so broad and distinct . . . . . 13.
12. Scutellum with six bristles; upper two-thirds of front yellow-brown, bristles on the occiput arranged in three rows . . . . . *rufipes* Macquart.  
 Scutellum with four bristles; front wholly yellowish grey; eyes separated by one and a half times the width of the ocellar tubercle; bristles on occiput not arranged in rows . . . . . *bohemani* Thomson.
13. Abdominal segments margined bright yellow and red-brown with fringes of bright yellow hairs . . . . . 14.  
 Abdominal segments mainly margined grey . . . . . 15.
14. Tibiae brown; median frontal spots forming a V-shaped area . . . . .  
 . . . . . *ornatifrons* Krober.  
 Tibiae olive or yellow-brown; median frontal spots widely separated . . . . .  
 . . . . . *umbratilis* White.
15. Eyes separated on the vertex by fully twice the width of the ocellar tubercle . . . . . *validus* sp. nov.  
 Eyes separated on the vertex by slightly more than the width of the ocellar tubercle . . . . . *montanus*, White.

*Note.*—It has been very difficult to arrange a suitable key to the species of this genus and I have found it necessary to incorporate several characters in some instances where the species are very closely allied. Identifications should be checked by reference to the descriptions. Doubtless there are many forms in collections which will not agree with the descriptions here and these may have to be regarded as new. I have several more new forms in the material under revision before me but I have refrained from describing these because they are represented by one or by damaged specimens. *Anabarrhynchus* being the dominant genus in Australia, it is only to be expected that many new forms will present themselves from time to time.

ANABARRHYNCHUS ARGENTEUS *sp. nov.*

Length: 12 mm.

*Female*: Occiput grey with patches of grey near the eye margins, bristles rather stout; eyes separated on the vertex by slightly more than the width of the ocellar tubercle; front dull black on the vertical two-thirds and silver-grey on the lower third, ornamented with a longitudinal median furrow and with some brown reflections; the median spots are large and confluent; antennae black, bristles very elongate on the first segment, separated at the base with the first segments slightly convergent; segment 1 slightly longer than 3 and covered with some grey tomentum; 2 short; 3 broadly conical; the style is one-third the length of the third segment of the antennae and has its first segment very short and the second elongate-conical; the arista is one-third the length of the style; face silvery grey; cheeks silver-white and bearing greyish hairs; proboscis black, projecting as far forward as the apex of the first antennal segment; palpi black, hidden in the oral aperture.

Thorax dull black, yellowish on the sides and hind margin; ornamented with two well-defined, broad, yellowish, dorsal stripes and a grey area just in front of the scutellum; furnished with 4 pre-alar, 3 supra-alar, and 4 pre-scutellar bristles; pleurae yellowish grey, the nota-, meso- and metapleura furnished with tufts of whitish hairs; scutellum black-brown, broadly margined grey and furnished with four stout bristles; postscutellum black.

Abdomen shining black, covered with black pubescence and with fringes of whitish hairs on the hind margins of the first three segments; segment 1 somewhat brownish; 1-3 with side and hind margins grey; 5 and 6 with the side margins broadly grey; venter of segments 1-3 greyish, the remainder black; genital spines black.

Legs black; tibiae, except for the apices and basal third of the first posterior tarsal segments brown; anterior and posterior femora furnished with two pairs and one pair of apical bristles, respectively.

Wings with the apical two-thirds tinged deep black, the basal third being somewhat lighter; pterostigma black; venation much as in *abdominalis*. The halteres are black.

The male is unknown.

Habitat: Wynnum, Queensland. The unique female Holotype (B. A. Smith) is in the Queensland Museum collection, No. 3278.

This species can readily be separated from all other species of *Anabarrhynchus* by the colour of the wings in conjunction with the general black colour and by the silvery-grey face.

## ANABARRHYNCHUS LATIFRONS.

*Anabarrhynchus latifrons* Macquart, Dipt. Exot., suppl. 4, 1850; *Id.*, White, Proc. Roy. Soc. Tasm., 1915.

Length: 8.9 mm.

*Male*: Head considerably broader than long; occiput blue-grey, bristles arranged in two rows; eyes separated on the vertex by half as much again as the width of the ocellar tubercle, the anterior margins straight; front black on the upper two-thirds and the lower third grey, frontal spots brown, suffused, and contiguous with the eye margins, bristles and hairs sparse; antennae noticeably shorter than the head, the first two segments grey and the third and style brown, separated at the base with the apices of the first segments touching; segment 1 slightly shorter than 3; 2 short and globular; 3 conical, almost as long as 1 and 2 united; the style is half the length of the first segment of the antennae and

has its first segment one-third the length of its second; the arista is one-fourth the length of the style; face and cheeks very pale grey, the latter bearing greyish hairs; proboscis black-brown, well hidden in the mouth aperture; palpi brown and as long as the proboscis.

Thorax shining black with margins grey and with faint indications of brownish, parallel stripes; furnished with 4 pre-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae blue-grey; scutellum black-brown in the centre and the remaining portion grey, furnished with four bristles; postscutellum black.

Abdomen very little longer than thorax, shining black with apical and side margins of segments 2 and 3 grey; side margins of 5 broadly grey; 7 wholly grey and 8 wholly brown; venter grey; genitalia brown.

Legs black; tibiae black-brown with apices black; the posterior femora bear a pair of black apical bristles.

Wings hyaline; veins brown; R4 slightly curved upward at the extremity only; Cu1 coalesces with 1A well before the margin; M3 and M4 convergent. The halteres are black with the stems brown.

The female differs from the male in the usual sexual characters only. The genital spines are black.

Variations: M3 and M4 vary in the degree of convergence; the color of the front varies from shining black to dull-black on the upper two-thirds and from grey to yellow-white on the lower third; the first abdominal segment may have the apex margined white.

In the material before me I have one male taken at the Queensland National Park by G. H. Hardy (March, 1921) which varies considerably from the typical *latifrons* and which may represent another species.

The eyes are separated on the vertex by twice the width of the ocellar tubercle; the front is brown, becoming somewhat lighter towards the antennae, the frontal spots are confluent and form an irregular transverse band.

Thorax ornamented with two distinct, grey, parallel stripes.

Abdomen black-brown, segments 2 and 3 with the apical and side margins grey; 5 and 6 largely grey; 7 brown and 8 grey.

Legs brown; coxae black; femora dark-brown and covered with grey tomentum.

Habitat: Tasmania, Wynyard (1 ♂, 2 ♀, January-February); Hobart (1 ♀, March, 1917); Sheffield (1 ♂, January, 1917); Tunbridge (1 ♀, February, 1924); Triabunna (3 ♀, December, 1915); Launceston (1 pair taken in copula, February, 1916); New South Wales, Blackheath (2 pairs taken in copula, November, 1919); Queensland, Sunnybank (1 ♀, August, 1927). All of these were taken by G. H. Hardy.

#### ANABARRHYNCHUS MARITIMUS.

*Anabarrhynchus maritimus* Hardy, Proc. Roy. Soc. Tasm., 1916.

Length: 8-10 mm.

*Male*: Head considerably broader than long; occiput dark grey with black reflections, bristles rather weak; eyes separated on the vertex by slightly more than twice the width of the ocellar tubercle and with the anterior margins straight; front shining black, slightly grey near the antennae, median spots black, confluent; antennae slightly shorter than the head, black, separated at the base with the apices of the first segments contiguous; segment 1 almost as long as the others combined; 2 short and globular; 3 more or less conical; the style is one-fourth the length of the third antennal segment, with its first segment short and somewhat globular and its second broadly conical and three times as long as the

first; the arista is about one-fifth of the length of the style; face and cheeks dirty white, the latter bearing whitish hairs; the proboscis is black and projects as far forward as the apex of the first segment of the antennae; palpi black and two-thirds the length of the proboscis.

Thorax shining black with two yellow-brown parallel stripes which gradually fade until they disappear on the posterior third; sides greyish; furnished with 4 pre-alar, 2 or 3 supra-alar and 2 weak and 2 strong pre-scutellar bristles; pleurae grey, meso-pleura black; scutellum shining black with grey hind margin, bearing 4 erect and stout bristles; post-scutellum deep black.

Abdomen shining black with the apical margins of segments 1-3 faintly grey; venter of first two segments grey, remainder black; genitalia black-brown.

Legs black; tibiae and first tarsal segments, except for the apices, brown; the anterior femora bear two pairs of black apical bristles and the posterior one, a pair of apical.

Wings tinged brown, veins black-brown and well marked; R4 decumbent for two-thirds of its length and then curving upward; Cul coalesces with 1A, which is straight, slightly before the margin.

The female differs from the male by having paler thoracic stripes, and the scutellum sometimes uniformly blue-grey.

Variations: The thorax is sometimes chocolate brown, the stripes vary in colour from yellow-brown to yellow or they may even be somewhat grey; the front may have more or less black and the grey at the base of the antennae may be replaced by yellow; 1A may be curved and Cul may coalesce with same just before or at the hind margin or they may be very slightly separated when they reach it.

Habitat: Tasmania, Dunalley (3 ♂, 2 pairs taken in copula, December, Maria Island (2 ♀, February), all taken by G. H. Hardy; New South Wales, Sydney (2 ♀, G. H. Hardy, September, 1921), Woy Woy (3 pairs, I. M. Mackerras, October, 1924); Queensland, Coolangatta (1 ♀, December, 1925, H. Hacker).

*A. maritimus* comes close to *latifrons* and *argenteus*, but can be readily separated from both by the colour of the wings and the thoracic stripes. It differs from *argenteus* also by the colour of the face, width of the front on the vertex and by the colour of the margins of the abdominal segments and from *latifrons* by the longer first antennal segment in comparison with the third and by the larger size. The species can be separated from *rufipes*, to which it bears some resemblance, by the colour of the abdomen.

#### ANABARRHYNCHUS PASSUS.

*Anabarrhynchus passus*. White, Proc. Roy. Soc. Tasm., 1915.

Length: 8.5-9.5 mm.

*Male*: Occiput grey, bristles sparse and not arranged in rows; eyes separated by very slightly more than the width of the ocellar tubercle on the vertex; vertical two-thirds of front brown, remainder yellowish, frontal spots dark-brown, confluent and forming a rather broad transverse band, median furrow present but rather short and deep; antennae yellowish grey, rather widely separated at the base; segment 1 is noticeably broader than the others and is about the same length as 3; 3 is somewhat contracted at the apex but otherwise is of the usual conical shape; the style is slightly less than one-third the length of the first segment of the antennae and has its first segment very short; the arista is about half the length of the style; face and cheeks very small, brownish, the latter becoming somewhat silver-grey as they descend under the eyes and bearing white hairs;

proboscis brown, well hidden in oral aperture; palpi light brown and covered with white hairs.

Thorax dark brown, scantily covered with short black hair and pubescence; furnished with 4 pre-alar, and 3 supra-alar bristles; pleurae grey; scutellum dark brown, with a lighter margin, a pre-apical transverse depression and bearing four rather weak bristles; post-scutellum dark grey.

Abdomen rather stout, hardly twice as long as its greatest width, mainly greyish; segment 1 somewhat brownish; 2-4 with a large posteriorly rounded brown area on the anterior margin, this area occupies more than half of segment 2, but slightly less than half of 3 and 4; 8 is deep shining brown; venter and genitalia greyish.

Legs: Coxae dark grey and furnished with tufts of white hairs; femora black-brown, hairy but devoid of bristles; tibiae yellow-brown or pale brown with the apex blackish; tarsi dark brown with blackish reflections.

Wings yellowish along the fore margin; stigma yellow; the basal half of the costa is conspicuously inflated; R4 decumbent for half its length and then curving upward; 1A straight and Cul coalesces with this vein well before the border. Halteres brown with yellow apices.

The female differs from the male by having a paler coloured front, the eyes being separated on the vertex by twice the width of the ocellar tubercle, paler coloured thorax which exhibits faint indications of five parallel stripes, black femora and by having the wings tinged yellow-brown. The genital spines are black.

Variations: A pair of pre-scutellar bristles are sometimes present and the thoracic stripes are often quite distinct.

Habitat: Tasmania, Hobart (2 ♂, 4 ♀, G. H. Hardy, October-December).

This species is quite distinct from all other members of the genus by having the basal half of the costa conspicuously inflated. Most species of *Anabarrhynchus* have a slight inflation of this vein, but the character is well developed in *passus*.

#### ANABARRHYNCHUS ABDOMINALIS.

*Anabarrhynchus abdominalis* Krober, Ent Mitt., 1, 1912.

Length: 11-12.5 mm.

*Male*: Occiput grey, brown at the eye margins, bristles not arranged in definite rows; eyes separated on the vertex by slightly more than the width of the ocellar tubercle; front brown, hairs and bristles rather dense, the frontal spots are brown and contiguous with the eye margins, an indistinct longitudinal furrow extending from the ocellar tubercle to the base of the antennae is present; antennae shorter than the head, rather widely separated at the base; segment 1 grey, about the same length as 3; 2 and 3 black; the first segment of the style is somewhat globular and the second elongate, the whole being slightly more than half the length of the third antennal segment; arista about one-sixth the length of the style; face yellowish; cheeks silvery grey and bearing whitish hairs; proboscis brown, covered with grey tomentum and projecting as far forward as the apex of the first antennal segment; palpi light brown, two-thirds the length of the proboscis, covered with whitish hairs.

Thorax yellow-brown dorsally and becoming brown towards the sides; ornamented with five distinct and rather broad dark brown parallel stripes; furnished with 4 pre-alar, 4 supra-alar, one of which is very weak, and 4 pre-scutellar bristles; pleurae greyish; scutellum brown and bearing four bristles; post-scutellum brownish.

Abdomen shining black and covered with whitish and black hairs; the sides, venter and genitalia mainly reddish-orange.

Legs orange, coxae black, tarsi darkened with black hairs; the anterior femora bear a row of four very weak, the intermediate a row of four to six rather stronger and the posterior ones, a pair of strong apical bristles; the bristles on the tibiae are elongated.

Wings tinged yellow-brown, fore margin yellow; R4 as in *passus*.

The female differs from the male in the usual sexual characters only. The genital spines are black.

Variations: The colour of the thorax may vary in intensity.

Habitat: New South Wales, Sydney (3 ♂, 2 ♀, 3 pairs taken in copula, G. H. Hardy, August-September, 1919, August, 1920).

The species is distinguished from all other *Anabarrhynchus* by the reddish orange sides and venter of the abdomen, in conjunction with the unicoloured legs.

#### ANABARRHYNCHUS AUREOVILLOSUS.

*Anabarrhynchus aurcavillosus* Krober, Mitt. Ent., 1, 1912.

Length: 9-12 mm.

*Male*: Head distinctly broader than long; occiput bright brown on the vertical half and from thence greyish; eyes separated on the vertex by slightly more than the width of the ocellar tubercle and from thence gradually diverging; front bright yellow-brown with some dark brown reflections, hairs and bristles rather dense, ornamented with a rather deep median furrow, frontal spots contiguous with the eye margins; antennae black, narrowly separated at the base; segment 1 about the same length as 3; 2 short, glohular and flattened at the extremities; 3 is broad and evenly conical; the style is comparatively long, its first segment short and its second elongate-conical; the arista is one-third the length of the style; face yellow, cheeks light grey and bearing whitish hairs; proboscis brown, often projecting as far forward as the middle of the third segment of the antennae; palpi light brown, one-fourth the length of the proboscis.

The thorax is bright yellow-brown, covered with black and pale golden pubescence, ornamented with five indistinct dark brown parallel stripes and furnished with 4 pre-alar, 3 supra-alar and 2 weak and 2 strong pre-scutellar bristles all of which are black; pleurae grey, the nota-, mesa- and metapleura each bear a tuft of whitish hairs; scutellum bright yellow-brown, covered with black and pale golden pubescence and bearing 4 bristles; post-scutellum yellowish.

Abdomen mainly bright yellow-brown or pale golden, covered with black and pale golden pubescence on the dorsum and bearing dense golden pubescence and hairs on the sides; segments 2-6 ornamented with a large, posteriorly rounded black-brown area on the anterior margin, these areas occupy most of the dorsal surface of 2-4, but only half of that of 5 and 6; venter greyish with yellow tomentum; genitalia brown.

Legs orange, coxae grey and the apices of the tarsi black; the fore femora bear two, the middle five median and the hind, a pair of apical bristles.

Wings tinged brown hut with the basal veins and fore margin yellow; venation much as in *abdominalis*.

The female differs from the male in the ordinary sexual characters only.

Variations: The length of the proboscis varies; the colour of the front and thorax varies in intensity; a male in the material before me, from Caloundra, Queensland (H. Hacker, October, 1913) appears to represent a distinct sub species; it differs from the typical form by having the eye margins parallel for some distance below the vertex before diverging, by the narrower front, yellowish

antennae, uniformly dull black-brown abdomen which has segments 2 and 3 broadly and 4 and 6 narrowly margined posteriorly with pale golden, segments 7 and 8 brown and by the absence of the pale golden pubescence and hairs on the sides of the abdomen. A further male from Sydney (G. H. Hardy, October, 1919) is somewhat distinct in having the eye margins parallel for some distance below the vertex, but to a lesser degree than the Caloundra specimen, but it differs again from that and from the typical specimens by having the abdomen mainly grey, covered with pale yellow pubescence and hairs on the dorsum and on the sides.

The Caloundra specimen resembles *ornatifrons* to a certain extent, but can readily be separated from that species by the shape and ornamentation of the front and by the abdominal colouration.

Habitat: Queensland, Stradbroke Island (2 ♂, 2 ♀, H. Hacker, September, 1915); Dunwich (1 ♂, 1 ♀, I. M. Mackerras, September, 1926); Brisbane (1 ♂, 1 pair taken in copula, G. H. Hardy, October); New South Wales, Sydney (1 ♂, 1 ♀, 1 pair taken in copula, G. H. Hardy, September-October, 1919).

The species is distinguished from all other members of the genus by the general colouration and by the presence of the pale golden hair and pubescence along the sides of the abdomen.

*ANABARRHYNCHUS FLAVUS sp. nov.*

Length: 6-9 mm.

*Male:* Occiput bright yellow, with a deep median indentation and with bristles arranged in three indistinct rows; eyes separated on the vertex by the width of the ocellar tubercle, anterior margins convex; front golden yellow, median spots brown; antennae separated at the base, apices of first segments converging but not touching; segment 1 grey, about the same length as 3; 2 grey, less than one-third the length of 1; 3 brown, conical; the style is slightly more than one-third the length of the first segment of the antennae and has its first segment one-fourth the length of its second; arista one-third the length of the style; face yellow-brown; cheeks grey and bearing similarly coloured hairs; proboscis black and lying close against the mouth aperture; palpi pale brown and half the length of the proboscis.

Thorax yellow with an olive reflection, appearing olive green in some lights; ornamented with two broad yellow but very indistinct parallel stripes; furnished with 4 stout pre-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey; scutellum yellow and bearing four bristles; post-scutellum black.

Abdomen brown-black; segment 1 grey; 2 and 3 with the apical and side margins broadly grey; 8 brown; venter of segments 1-3 grey, 4-7 black-brown and 8 brown; genitalia brown.

*Legs:* Coxae, anterior femora and apices of all tarsi black; remaining femora orange; all tibiae and the basal half of the first tarsal segments brown; the fore femora bear a row and the hind ones a pair of apical bristles.

Wings byaline; veins yellow at the base and along the fore margin, the remainder brown, but faintly marked; R4 decumbent for half its length and then curving upward; Cul coalesces with 1A slightly before the margin. The halteres are grey with the apices brown.

The female is unknown.

Holotype male in the Queensland Museum, No. 3279, taken by H. Hacker at Caloundra, Queensland, October, 1913.

Paratype male (Bribie Island, Queensland, H. Hacker, August, 1920) also in the Queensland Museum collection, No. 3280.

This species is readily separated from the other members of the genus by the colour of the thorax and legs.

ANABARRHYNCHUS HELVENACUS.

*Anabarrhynchus helvenacus* White, Proc. Roy. Soc. Tasm., 1915.

Length: 7-9 mm.

*Male*: Head considerably broader than long; occiput grey, brown at the eye margins, furnished with numerous black bristles which are not arranged in rows; eyes separated on the vertex by half the width of the ocellar tubercle again, anterior margin straight; front brown, median spots indistinct; antennae black, considerably shorter than the head, separated at the base with the apices of the first segments almost touching; segment 1 about the same length as 3; 2 about one-third the length of 1; 3 conical but slightly bulged at the apex; the style is one-third the length of the third antennal segment and has its first segment very short; the arista is slightly more than one-third the length of the style; face and cheeks silvery-grey, the latter bearing whitish hairs; proboscis black, lying close against the oral aperture; palpi pale-brown almost as long as proboscis.

Thorax dark-brown covered with black pubescence; ornamented with five indistinct dark-brown parallel longitudinal stripes and furnished with 3 pre-alar, 3 supra-alar and 4 pre-scutellar bristles all of which are black; pleurae grey; scutellum brown and furnished with four black bristles; post-scutellum black-brown.

Abdomen densely covered with long, fine, whitish and brownish hairs and black pubescence; brown-black; segments 2 and 3 with the apical and side margins grey; 4 to 6 with the side margins broadly grey; 8 brown; venter grey; genitalia brown.

Legs: Coxae and femora black; tibiae and tarsi and the extreme apices of femora clear yellow.

Wings faintly tinged yellow; costa yellow, remaining veins brown, but all faintly marked; R4 decumbent for half its length and then curving upward; Cu1 coalesces with 1A slightly before the margin. The halteres are brown with yellow apices.

*Female*: The female differs from the male by the broader front, paler-brown thorax and by the abdomen having more black.

Habitat: Tasmania, Hobart (1 ♂, 3 ♀, G. H. Hardy, March, 1917, January, 1916); Triabunna (1 ♂, G. H. Hardy, December, 1915).

This species is closely allied to *fasciatus* but can be distinguished by the shape of the anterior margins of the eyes and by the colour of the wings and legs.

ANABARRHYNCHUS FASCIATUS.

*Anabarrhynchus fasciatus* Macquart, Dipt. Exot., suppl. 3, 1848; *Id.*, Macquart, Dipt. Exot., suppl. 4, 1850; *Id.*, Schiner, Novara Reise Dipt., 1868; *Id.*, Kroher, Mitt. Naturh. Mus. Hamburg., xxxi., 1914.

Length: 8-10 mm.

*Male*: Head broader than long; occiput grey, yellowish at the eye margins and furnished with but few black bristles; eyes separated on the vertex by the width of the ocellar tubercle, converging very slightly below this for a short distance and from thence curving outwards; front yellow with faint brown reflections, the median spots are very indistinct, hairs short and sparse; antennae brown, shorter than the head, separated at the base with apices of first segments contiguous; segment 1 hardly as long as 3; 2 is one-third the length of 1; 3 is almost as long as 1 and 2 united; the style is one-third the length of the third



antennal segment and has its first segment one-fifth the length of its second; the arista is half the length of the style; face yellow-grey; cheeks silvery-grey and bearing white hairs; proboscis black, lying close against the face and reaching upwards to the base of the antennae; palpi yellow and half the length of the proboscis.

The thorax is yellow-brown, ornamented with five brown, parallel, longitudinal stripes, the median one only of which is distinct, the others being very indistinct; furnished with 5 pre-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey; scutellum yellow-brown with a dark brown median spot and bearing four black bristles; post-scutellum black.

The abdomen is dark or blackish brown, with segment 1, greyish brown; 2-4 with the side and posterior margins white, the former being rather extensive and somewhat triangular; 5-7 have the side margins largely white; 8 brown; venter grey; genitalia black.

Legs: Coxae and femora black; tibiae and tarsi brown with black apices. The anterior femora bear a pair of apical, the intermediate, a pair of median and the posterior, two pairs of apical bristles, all of which are black.

The wings are yellowish along the fore margin; otherwise tinged very faintly, brown; venation as in *helvenaecus*. The halteres are brown.

The female differs from the male by having a brighter coloured front, the colour of the thorax being more brown and by having the abdomen margined grey. The genital spines are black.

Habitat: New South Wales, Sydney (2 ♂, 3 ♀, 1 pair taken in copula, September-November, G. H. Hardy); (2 ♂, 3 ♀, February-March, I. M. Maekerras); (1 ♂, 1 ♀, April, 1922, J. Mann).

Variations: The ground colour of the thorax varies from grey to brown or yellow-brown.

This species closely resembles *helvenaecus* but can readily be separated by the colour of the wings and legs, shape of the anterior margins of the eyes and by the number of thoracic bristles.

#### ANABARRHYNCHUS CINEREUS.

*Anabarrhynchus cinereus* Krober, Ent. Mitt., 1, p. 215, 1912.

Length: 13 mm.

*Female*: Occiput grey, yellow at the eye margins and with a rather deep median indentation; eyes separated on the vertex by slightly more than the width of the ocellar tubercle and with the anterior margin straight; front yellow-brown on the upper two-thirds, the lower third yellow, median spots brown and confluent, forming an irregular transverse band; antennae black, separated at the base; segment 1 almost as long as 3; 2 is one-fourth the length of 1; 3 conical longer than 1 but not as long as 1 and 2 united; the style is one-fourth the length of the third antennal segment and has its second segment six times as long as its first; the arista short, one-fourth the length of the style; face pale yellow; cheeks silver-grey and bearing whitish hairs; proboscis black-brown projecting as far forward as the apex of the first antennal segment; palpi yellow-brown and two-thirds the length of the proboscis.

Thorax pale yellow-brown, ornamented with three narrow brown parallel longitudinal stripes, the outer ones of which are somewhat indistinct; furnished with 3 pre-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey; scutellum brown margined grey and furnished with four black bristles; post-scutellum black.

Abdomen shining black; segment 1 grey-black; 2 with the posterior margin

broadly white and the side margins grey; 3 with the side and posterior margins grey; 4-7 with the side margins broadly grey; venter grey; genital spines black.

Legs black; apices of femora red-brown; tibiae and tarsi yellow-brown with apices black. The anterior femora bear a row and two pair of apical bristles and the posterior femora bear a pair of apical.

Wings tinged brown; R4 decumbent for slightly more than half its length, then curving upward; Cu1 coalesces with 1A well before the border. The halteres are yellowish.

The male is unknown.

Habitat: Broken Bay, New South Wales (1 ♀, December, 1923, I. M. Mackerras).

This species resembles *fasciatus* but can be readily separated by the larger size and colour of the front and abdomen.

#### ANABARRHYNCHUS TRISTIS.

*Anabarrhynchus tristis* Bigot, Ann. Ent. Soc. France, Vol. 9, 1889.

Length: 13 mm.

*Female*: Head considerably broader than long; occiput grey, yellow at the eye margins, median indentation very shallow; eyes separated on the vertex by slightly more than the width of the ocellar tubercle, widely diverging below this but with the anterior margin straight; the upper two-thirds of the front brown, remainder white, median frontal spots large, brown, bristles and hairs fairly dense; antennae black, shorter than the head, approximated at the base with the apical half of the first segments touching; segment 1 shorter than 3; 2 about one-third the length of 1; 3 almost as long as 1 and 2 united; the style is slightly less than one-third the length of the third segment of the antennae and has its second segment about six times as long as its first; the arista is one-third the length of the style; face and cheeks white, the latter bearing greyish hairs; proboscis black with a few red hairs on the underside, projecting as far forward as the apex of the first segment of the antennae; palpi pale brown, half the length of the proboscis.

Thorax grey, ornamented with three broad but very indistinct dark grey parallel stripes; furnished with 3 pre-alar, 1 inter-alar, 3 supra-alar and 4 pre-scutellar bristles, all of which are very stout; pleurae grey; scutellum grey and bearing four bristles; post-scutellum black.

Abdomen black; segments 1 and 2 with the side margins grey and the posterior margins white and 1 bears a fringe of long white hairs on the hind margin; 3 and 4 with the side margins white and the hind margins narrowly grey; 5-7 with the hind margins broadly dark grey; venter black with the hind margins of the segments grey; genital spines black.

Legs brown; coxae, anterior femora and underside of basal half of the intermediate and posterior femora, black; the fore and middle femora each bear a row of black bristles and the hind ones a pair of apical.

Wings faintly smoky, veins brown; R4 decumbent for slightly more than half its length and then curving abruptly upwards; Cu1 coalesces with 1A well before the border. The halteres are brown.

The male is unknown.

Habitat: New South Wales, National Park (1 ♀, I. M. Mackerras, January, 1926).

The type locality for this species was given by Bigot as "Australia" and his specimen was not perfect. My identification of the species is based mainly, on

the colour of the wings, abdomen and front, which readily separates it from all other members of the genus.

ANABARRHYNCHUS TERRENUS.

*Anabarrhynchus terrenus* White, Proc. Roy. Soc. Tasm., 1915; *Id.*, Hardy, Proc. Linn. Soc. New South Wales, xlv., 1921.

Length: 10-12 mm.

*Male*: Head very little broader than long; occiput dark grey, brown at the eye margins, with a deep median indentation and furnished with black bristles and hairs which are not arranged in rows; eyes separated on the vertex by slightly more than the width of the ocellar tubercle, anterior margins straight; upper three-fourths of front brown, lower fourth, yellow, median spots suffused and forming an irregular transverse band, bristles and hairs black; antennae black, slightly shorter than the head, separated at the base with the apices of the first segments contiguous; segment 1 considerably shorter than 3; 2 more or less globular; 3 conical, as long as 1 and 2 united; the style is two-thirds the length of the first segment of the antennae and has its first segment very short; the arista is one-fourth the length of the style; face white; cheeks silvery and bearing whitish hairs; proboscis black; palpi brown and half the length of the proboscis.

Thorax brown; ornamented with three distinct dark brown parallel longitudinal stripes and furnished with bristles as in *calceatus*; pleurae grey; scutellum brown and bearing four bristles; post-scutellum black.

Abdomen dull black; segments 1-3 with apical and side margins grey; 4-6 with side margins broadly grey; 8 wholly brown; venter grey; genitalia brown.

Legs black, all tibiae and the apical half of the intermediate and posterior femora red-brown; the anterior and intermediate femora bear rows of bristles and the posterior ones bear a pair of intermediate and two pairs of apical.

Wings tinged brown with the veins dark brown and distinctly marked; venation similar to that of *montanus* except that R4 is decumbent for half its length and then curves upwards.

The female differs from the male by the more slender form and by having considerably more grey on the abdomen.

Variations: The thorax may be tinged greyish and the thoracic stripes may be indistinct and all the femora may be black, or may have the apices only, red-brown.

Habitat: Tasmania, Mount Wellington (2 ♂, 2 ♀, G. H. Hardy, January, 1918); Hobart (2 pairs taken in copula, G. H. Hardy, December, 1915 and 1916); Ballina, New South Wales (1 ♀, A. N. Burns, October, 1922).

ANABARRHYNCHUS CALCEATUS.

*Anabarrhynchus calceatus* Schiner, Novara Reise Dipt., p. 149, 1868; *Id.*, Krieger, Ent. Mitt., 1, p. 188, 1912.

Length: 12-13 mm.

*Male*: Occiput grey, with a deep median indentation, bristles numerous but not arranged in rows; eyes separated on the vertex by slightly more than the width of the ocellar tubercle, the anterior margins are curved (convex); front yellow-brown, yellow on the lower fourth, frontal spots suffused and placed on either side of a faint brown longitudinal stripe; antennae almost as long as the head, black, separated at the base, first segments touching at the apices; segment 1 considerably shorter than 3; 2 short; 3 as long as 1 and 2 combined, narrowly conical and somewhat bulged at the extreme apex; the style is narrowly conical and half the length of the first antennal segment, its first segment is very short

and the second more than three times as long as same; the arista is half the length of the style; face and cheeks yellow-white, the latter bearing white hairs; proboscis stout, black-brown and projects as far forward as the apex of the first antennal segment; palpi yellowish and half the length of the proboscis.

Thorax grey-brown, ornamented with five very indistinct dark brown parallel, longitudinal stripes; covered sparsely with black hairs and pubescence and furnished with 4 pre-alar, 3 supra-alar, and 4 pre-scutellar bristles; pleurae grey; scutellum dull brown and armed with 4 bristles; post-scutellum black.

Abdomen black with the apical and side margins of segments 1-3, grey; the side margins only, of 4-6, grey; 8 brown; venter grey; genitalia brown.

Legs: Anterior femora black, intermediate and posterior femora red-brown, the former with a black stripe on each side and the latter with a similarly coloured stripe above; tibiae and first tarsal segment yellow-brown with the apices black, remaining tarsi, black; the anterior and intermediate femora each bear rows of black bristles and the posterior ones a pair of apical.

Wings faintly smoky with brown veins and venation similar to *montanus*. The halteres are brown with yellow apices.

The female differs from the male by having a lighter coloured front and by having the thorax with sides and hind margin grey. Genital spines, black.

Habitat: New South Wales, Como (1 ♂, 1 ♀, G. H. Hardy, October, 1921); Sydney (1 ♂, 1 ♀, G. H. Hardy, October-November, 1919); National Park (Gundamain), (1 ♂, I. M. Mackerras, January, 1926); Blackheath (1 pair taken in copula, G. H. Hardy, November, 1919); Woodford (1 ♀, I. M. Mackerras); Queensland, Caloundra (1 ♀); Brisbane (1 ♂, 3 ♀, G. H. Hardy, 1 ♀, F. H. Roberts, and 1 pair taken in copula, J. Mann, August).

Variations: The fore margin of the wing may be yellow; the dorsum of the three apical segments of the abdomen may be grey and the grey on the side margins may be extensive or diminished. The anterior femora may be black on the basal half only.

This species was described from one female by Schiner, the type locality being Sydney. No mention was made of the width of the eye separation on the vertex. Krober described the species from one male and one female taken in New South Wales and New Zealand and he, too, did not mention the aforementioned characters. In 1915 White described the species from Tasmania and made special mention of the eyes being widely separated on the vertex. In the material before me I have specimens authentically identified as White's *calceatus* and which check up with his description of the species but do not agree with the original description given by Schiner, nor do they agree with that given by Krober. Specimens from Sydney and Brisbane, however, do check up with the original description and with that given by Krober and these do not agree with White's description; from this it is fairly evident that White erroneously identified this species and the one he described as *calceatus* would therefore represent a new species and the Sydney specimens are the true *calceatus*. White's *calceatus* is described in this paper as *validus*.

*A. calceatus* is evidently closely allied to *montanus* from which it is readily separated by the color of the wings and the abdomen.

#### ANABARRHYNCHUS RUFIPES.

*Anabarrhynchus rufipes* Macquart, Dipt., Exot., suppl. 4, 1850; *Id.*, White, Proc. Roy. Soc. Tasm., 1915; *Id.*, Hardy, P. & P., Roy. Soc. Tasm., 1916.  
Length: 9-11 mm.

*Male*: Head considerably broader than long; occiput yellow-brown, somewhat greyish medianly, with a median longitudinal brown groove, the black bristles are arranged in three distinct rows; eyes separated, on the vertex by twice the width of the ocellar tubercle, with the anterior margins straight; front with the upper two-thirds yellow-brown and the lower third yellowish, median frontal spots, brown; antennae almost as long as the head, separated at the base with the apices of the first segments approximated; segment 1 greyish and about the same length as 3; 2 brown; 3 brownish on the basal fourth and the remainder blackish, furnished with a few black bristles at the base; the style has its first segment short and broad and its second about twice as long as the first and rounded at the apex; the arista is two-thirds the length of the style and is slightly sub-apical; face and cheeks whitish, the latter bearing white hairs; proboscis brown, hardly projecting and bearing brownish hairs; palpi yellowish, projecting slightly beyond the proboscis and covered with whitish hairs.

Thorax grey with three broad, parallel dark brown stripes which are considerably darker in the centre; the central stripe is almost black down the centre; furnished with 5 pre-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey, dusted with yellowish tomentum, scutellum grey with a central broad dark brown longitudinal stripe which is darker down the centre, furnished with 6 bristles; post-scutellum grey.

Abdomen covered with black and whitish hairs; black-brown, with the side and apical margins grey on segments 1-5; apical segments yellowish; venter of segments 1-5 grey with the apical margin broadly bright yellow; 6-8 bright yellow; genitalia brownish.

Legs brown with apices of tibiae and tarsal segments black; coxae grey; bristles black; hairs whitish and black; the anterior femora bear 4, the intermediate 2 and the posterior 2 black bristles.

Wings tinged brown with veins deeply marked and almost black; R4 decumbent for two-thirds its length and then curving upwards; M3 and M4 slightly convergent; Cu1 coalesces with 1A, which is straight, just before the margin. The halteres are yellow.

The female differs from the male by having a whitish occiput and front, and yellowish legs.

Variations: The colouration of the front varies from yellow-brown to brown in the male and from yellow-brown to whitish in the female.

Habitat: Tasmania, Dunalley (1 ♂, G. H. Hardy, December, 1917); Hohart (5 ♂ and 3 pairs taken in copula, G. H. Hardy, January, 1918, March, 1917); Rhehan (1 ♀, G. H. Hardy, February, 1918); Maria Island (1 ♀, January, 1916).

The colour of the thorax in conjunction with the colour of the wings and wing veins and the widely separated eyes in both sexes will distinguish this species from all other *Anabarrhynchus* with the exception of *bohemani* and *maritimus*; from the former of these it can be separated by the number of scutellar bristles, colour of the front and the widely separated eyes and from the latter species by the colour of the abdomen.

#### ANABARRHYNCHUS BOHEMANI.

*Anabarrhynchus bohemani* Thomson, Eug. Resa. Dipt., p. 429, 1868.

Length: 9-10 mm.

*Male*: Occiput silver-grey, yellow-brown along the eye margins, bristles not arranged in rows; eyes separated on the vertex by one and a half times the width of the ocellar tubercle and with the anterior margins straight; front yellowish

grey, median spots, black-brown, densely haired; antennae hardly as long as the head, approximated at the base but otherwise as in *rufipes*; face and cheeks yellowish white, the latter bearing white hairs; proboscis brown, projecting as far forward as the apex of the first antennal segment; palpi pale yellow, half the length of the proboscis and covered with white hairs.

Thorax as in *rufipes* except that the scutellum has four bristles only.

Abdomen with segments 1-4 brown with apical and side margins grey; 5-7 black-brown with the apical margins yellow and 8, yellow brown; venter of segments 1-5 grey and 6-8 yellow; genitalia yellow-brown.

Legs as in *rufipes*.

Wings faintly tinged brown; veins black-brown and deeply marked. The halteres are yellow.

The female differs from the male by having lighter coloured legs, and the abdomen coloured, segments 1-4 brown with the apical and side margins broadly blue-grey; 5-8 with the anterior margin brown and the remainder with a dull brick coloured reflection. Genital spines black.

Habitat: New South Wales, Sydney (1 ♂, G. H. Hardy, August, 1920), Woy Woy (1 ♀, 2 ♂, I. M. Mackerras, October, 1924).

This species was described originally from a male taken in Sydney and is closely allied to *rufipes*, but can be separated from that species by the absence of the rows of bristles on the occiput and by the colour of the abdomen.

#### ANABARRHYNCHUS ORNATIFRONS.

*Anabarrhynchus ornatifrons* Krober, Mitt. Naturh., Mus. Hamburg., 1914.

Length: 10 mm.

*Male*: Occiput yellow-brown, golden at the eye margins, bristles arranged in three irregular but distinct rows, median indentation distinct; eyes separated on the vertex by slightly more than the width of the ocellar tubercle and with the anterior margin straight; front golden brown, slightly darker on the vertex and lighter towards the eye margins, the median spots are elongated and confluent at the vertical end, forming a V-shaped, dark brown area, hairs and bristles sparse; antennae separated at the base, with the apices of the first segments touching; segment 1 three times as long as 2 and somewhat yellowish at the base but otherwise brownish; 2 one-fourth the length of 3, brown; 3 as long as 1 and 2 united and is also brown; the style is slightly more than half the length of the first segment of the antennae and has its second segment four times as long as its first; the arista is slightly more than two-thirds the length of the style; face and cheeks bright yellow, the latter bearing yellowish hairs; proboscis brown, covered with yellowish tomentum and projecting as far forward as the apex of the second segment of the antennae; palpi yellow, one-third the length of the proboscis.

Thorax brown, yellow-grey anteriorly, dark brown on the sides and with some yellowish tomentum on the dorsum; covered densely with black pubescence; ornamented with five broad distinct parallel stripes, the central and outer ones of which are darker and more distinct than the other two; furnished with 3 pre-alar, 1 inter-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey, covered with yellowish tomentum, scutellum yellow-brown, with a dark brown median spot and bearing 4 bristles; post-scutellum grey.

Abdomen black; segment 1 yellow-grey with the posterior margin narrowly bright yellow, preceded by a red-brown reflection and bearing a fringe of bright yellow hairs; 2 with side and posterior margins broadly bright yellow and bearing a fringe of similarly coloured hairs; 3 with side margins broadly, and posterior margin narrowly, bright yellow preceded by a red-brown reflection; 4 and

5 with the side margins broadly bright yellow and the posterior margin broadly red-brown and bearing a fringe of yellow hairs; 6 and 7 with the side and posterior margins broadly red-brown; 8 red-brown; venter blackish with posterior margins of segments red-brown; genitalia shining brown.

Legs: Coxae black; femora bright yellow-brown; tibiae and tarsi brown but with the apices black; the anterior femora bear a row of 5 bristles, the intermediate a row of 6 and a pair of apical and the posterior ones a pair of apical.

Wings tinged brown, costa somewhat yellowish; R4 straight for half its length and then decumbent for one-fourth and from thence curving upwards; M2 slightly sinuous; Cul coalesces with 1A just before the border. In comparison with the other species of the genus the wings are shorter and broader and much more rounded at the apex. The halteres are yellow.

The female is unknown.

Habitat: North Queensland, Kuranda (1 ♂, A. P. Dodd), Dunk Island (2 ♂, F. Perkins, 27/8/1927).

This species was originally described from one male taken at Kuranda and is easily recognised by the V-shaped area on the front, colour of the abdomen and by the shape of the wings.

#### ANABARRHYNCHUS UMBRATILIS.

*Anabarrhynchus umbratilis* White, Proc. Roy. Soc. Tasm., 1915.

Length: 9-10 mm.

*Male*: Head about as broad as long; occiput grey with a deep median indentation, the bristles not arranged in rows; eyes separated on the vertex by twice the width of the ocellar tubercle, with the anterior margins slightly convex; vertical half of front brown, remainder white, median furrow present and deep, bristles and hairs very numerous, frontal spots widely separated, almost touching the eye margins, but indistinct because of being confluent with the brown of the upper half of the front; antennae black, separated at the base with the apices of the first segments touching; segment 1 covered with grey tomentum, slightly shorter than 3; 2 short and globular; 3 hardly as long as 1 and 2 united; style about as long as the second segment of the antennae, its first segment very short; the arista is one-third the length of the style; face white; cheeks greyish and bearing similarly coloured hairs; proboscis brown, projecting as far forwards as the apex of the first antennal segment; palpi pale brown, two-thirds the length of the proboscis.

Thorax dark brown; ornamented with five parallel stripes; furnished with 3 pre-alar, 1 inter-alar, 3 supra-alar and 4 pre-scutellar bristles; pleurae grey; scutellum brown, bearing four bristles; post-scutellum black.

Abdomen black with side and posterior margins, the latter narrowly, white; venter grey; genitalia brown.

Legs olive or yellow-brown; the apices of the first tarsal segments and all remaining tarsi black. The posterior femora bear two pair of apical bristles.

Wings faintly tinged brown, veins red-brown; R4 decumbent for half its length and then curving upward; Cul joins 1A well before the border. The halteres are yellow with the apices brown.

The female differs from the male by having a less hairy front, stronger bristles on the occiput, the last three segments of the abdomen with the side margins broadly grey. The genital spines are brown.

*Note*.—The two species referred to by White are the female holotype and the male allotype. Evidently White regarded them as being but one sex, describ-

ing from the female form, both according to his sex determination and to the label on his type specimen.

Holotype and Allotype, Wedge Bay (G. H. Hardy, January, 1914); both are in G. H. Hardy's collection, Brisbane.

The species is distinct by the colour of the legs and general light colour throughout.

*ANABARRHYNCHUS VALIDUS* sp. nov.

Length: 11-12 mm.

*Male*: Head much broader than long; occiput broadly brown at the eye margins, below this grey, bristles not arranged in rows; eyes separated on the vertex by fully twice the width of the ocellar tubercle and with the anterior margins convex; front drab grey-brown on the upper half, the remainder yellowish, median frontal spots brown and contiguous with the eye margins; antennae black, separated at the base, the apices of the first segments touching; segment 1 longer than 3 but not as long as 2 and 3 combined; 2 slightly less than one-third the length of 1; 3 conical and hairy along the sides; style conical, one-third the length of the third antennal segment and with its first segment about half the length of its second; the arista is one-third the length of the style; face yellowish; cheeks silver-grey and bearing white hairs; proboscis brown-black and projecting as far forwards as half the length of the first antennal segment; palpi brown, half the length of the proboscis.

Thorax brown, somewhat greyish on the anterior margins; ornamented with five narrow parallel dark brown stripes and furnished with 4 pre-alar, 3 supra-alar, and 4 pre-scutellar bristles; pleurae grey; scutellum brown with yellowish margins and bearing 4 strong bristles; post-scutellum black.

Abdomen black with posterior margins narrowly and side margins broadly grey; segment 7 wholly grey and 8 wholly red-brown; venter grey; genitalia red-brown.

Legs red-brown, the tarsi becoming brown towards their apices, coxae and basal half of anterior femora, black; the anterior femora bear a row, and the posterior femora a pair, of apical bristles.

Wings slightly yellowish, basal veins and fore-margin yellow, remainder brown; venation similar to *calceatus*. The halteres are brown.

The female differs from the male by having more grey on the abdomen. The genital spines are black.

Holotype: (Hobart, Tasmania, October, 1914, G. H. Hardy); Allotype: (ditto). Both in G. H. Hardy's collection, Brisbane.

Paratypes: One female and one pair taken in copula all from Hobart, Tasmania (November, 1916, G. H. Hardy).

This species was identified by White (Proc. Roy. Soc. Tasm., 1915) as *calceatus* Schiner, but can be distinguished from that species, as it can from *montanus*, with which it is evidently closely allied, by the width the eyes are separated on the vertex.

*ANABARRHYNCHUS MONTANUS*.

*Anabarrhynchus montanus* White, Proc. Roy. Soc. Tasm., 1915.

Length: 10-14 mm.

*Male*: Head considerably broader than long; occiput greyish, the bristles are arranged in four irregular rows; eyes separated on the vertex by slightly more than the width of the ocellar tubercle, the anterior margins are more or less straight; front yellowish brown on the upper half and yellow from thence to the base of the antennae, hairs and bristles rather dense; frontal spots are



brown and contiguous with the eye margins; antennae considerably shorter than the head, separated at the base with the apices of the first segments touching; segment 1 grey-black, three times as long as 2, straight sided, slightly tapering towards the apex; 2 more or less globular; 3 conical, constricted apically, broader than 2 and slightly longer than 1 and 2 combined, furnished with a few black bristles; scutellum brown with yellowish tomentum on the posterior margin and antennal segment and has its first segment very small and short and its second conical and more than twice as long as broad; the arista is broadly conical; face yellowish; cheeks silver-grey and bearing yellowish hairs; proboscis brown-black and projecting as far forwards as half the length of the first segment of the antennae; palpi brown, two-thirds the length of the proboscis.

Thorax brown with some yellowish tomentum, somewhat darker laterally and ornamented with 5 narrow parallel dark brown stripes, the outer ones of which are not so distinct; furnished with 5 pre-alar, 3 supra-alar and 4 pre-scutellar bristles at the base only; the style is received into the apical hollow of the third hearing 4 bristles; post-scutellum greyish black.

Abdomen short and broad, twice as long as its greatest width; black with fine blackish pubescence, greyish laterally with fine whitish pubescence; venter grey; genitalia brown.

Legs orange, coxae and basal half of anterior femora greyish black and the extremity of the tarsi, black; the anterior femora bear a row of 4 black bristles and the posterior and intermediate ones are each provided with two pairs of black apical bristles.

Wings three times as long as broad, tinged brown with basal veins and costa yellowish and the remainder brown; R<sub>4</sub> decumbent for half its length and then curving down and then up; C<sub>u</sub>1 coalesces with 1A well before the border. The halteres are brown.

The female differs from the male by having the front uniformly light yellow-brown. The genital spines are black.

Variations: The tinging of the wings grades between yellow and brown in both sexes; the stripes on the thorax may be quite indistinct.

In the material before me I have one male taken by G. H. Hardy at Mount Wellington, Tasmania, which varies considerably and may possibly represent another species, but I would not care to describe it as such until further specimens are available. It is more hairy than the typical *montanus* and the thorax is densely covered with black hairs, especially on the posterior third; there are four stout and one weak pre-alar bristles and the scutellum bears six marginals.

Another variable specimen, a male, taken at Barrington Tops, New South Wales, by the Sydney University Zoological Expedition (February, 1925), may also represent a distinct species. In this specimen the thorax is grey and sparsely covered with short black hairs and is ornamented with three brown stripes only, the centre one of which reaches to the scutellar suture and the others extend for two-thirds of the length of the dorsal surface only.

Habitat: Mount Wellington (2 ♂, 8 ♀, and 2 pairs taken in copula, G. H. Hardy, January 1918 and 1924); Maria Island (1 ♂, G. H. Hardy, December, 1915), Tasmania.

A large thick set species closely resembling *calceatus* from which it can be separated by the width of the eye separation on the vertex.

## ANABARRHYNCHUS FULVIPES.

*Anabarrhynchus fulvipes* Macquart, Dipt. Exot., suppl. 4, 1850.

"Niger, Pedibus flavis. Alis basi flavidis."

"Long. 4 l. fem. Corps entierement noir. Hanches noires; un peu de noir a l'extremite des jambes posterieures; les trois derniers articles des tarses noirs Ailes grisatres, a bord exterieur jaunatre."

"De la N-Hollande. Coll. de M. Bigot."

I have not recognised this species; the description does not contain any outstanding specific characters to make identification easy.

## ANABARRHYNCHUS RUFICORNIS.

*Anabarrhynchus ruficornis* Macquart, Dipt. Exot., suppl. 4, 1850.

"Thorace nigro; scutellum rufo-marginato. Abdomine mas fusco, incisuris anoque testaceis; fem. testaceo, vitta dorsali nigro. Antennis pedibusque rufis.

"Long. 2 3/4 mas., 5 l fem. Tromp peu saillante. Face et front noirs; ce dernier etroit mas. assez large fem.; antennes d'un beau fauve. Thorax a cotes testaces fem.; ecusson a petite bordure fauve. Abdomen mas, d'un brun noiratre; armure coputatrice et ventre testaces; fem. testace, a bande dorsale noire, interrompue aux incisions; ventre testace, a bande longitudinale brune sur les cotes. Pieds fauves avec les deux derniers articles des tarses bruns. Ailes un peu jaunatres."

"De la N-Hollande; cote orientale. Museum."

The black face and front together with the fawn antennae should readily distinguish this species. It is not represented in the material before me.

## ANABARRHYNCHUS RUFIVENTRIS.

*Anabarrhynchus rufiventris* Macquart, Dipt. Exot., suppl. 4, 1850.

"Thorace nigro. Abdomine rufo. Antennis pedibusque rufis."

"Long. 3 l. fem. Face brune. Front noir. Antennes fauves, a style noir. Thorax noir en-dessus, fauve sur les cotes et en-dessous; ecusson noir, borde de fauve. Abdomen fauve, a premier segment brunatre, et bord posterieur fauve; deuxieme et troisieme a petite tache dorsale noire, oblongue, n'atteignant ni la base ni l'extremite. Pieds fauves; tarses: les trois premiers articles a extremite noire; les deux autres noirs. Ailes un peu jaunatres."

"De la N-Hollande; cote orientale. Museum."

*Species of Uncertain Generic Position.*

The following species, described under the genus *Thereva*, have not been recognised but they probably all belong to *Anabarrhynchus*.

*Thereva varipes* Macquart, Dipt. Exot., suppl. 2, 1847. Tasmania.

*Thereva dimidiata* Macquart, Dipt. Exot., suppl. 2, 1847. Australia.

*Thereva aperta* Macquart, Dipt. Exot. suppl. 1, 1846. Sydney.

*Thereva ochropa* Thomson, Eng. Resa. Dipt., 1868. Sydney.

## Genus PSILOCEPHALA.

*Psilocephala* Zetterstedt, Ins. Lappon, Dipt., p. 525, 1830.

Genotype. *Bibio imberbis* (Sweden), by Coquillett's designation, 1920.

Krober records 13 species of *Psilocephala* as belonging to the Indio-Australian region and states that only two of these occur in Anstralia (Ent. Mitt., 1912).

White described four species in 1915 from Tasmania and Krober recorded one from the same island in 1912 and described one from Sydney in 1913, bringing the total number of species to eight.

I have failed to recognise any species of the genus and consequently am not in a position to draw any definite conclusions.

White characterises the genus as follows:—

"Head as broad as, or a little broader than, the thorax; front bare. Proboscis usually lying close against the face. Antennae short, the 1st joint about 3 times the length of the 2nd, but shorter than the 3rd. Eyes joined in the male, but widely separated in the female. Thorax bare, but with the thoracic bristles well developed, the dorso-central being either complete or consisting of from one to three pairs of pre-sentellar bristles. Abdomen narrow, conical in the male, but greatly lengthened in the female; genitalia of the male extended and conspicuous. Legs slender, of medium length, the tibiae bearing short bristles. Wings either without markings or spotted and banded; the 4th posterior cell in Australian species always open. This genus is distinguished from *Anabarrhynchus* in both sexes by the much more slender shape and the bare front and in the male by the joined eyes and extended genitalia."

This species is evidently allied to *ruficornis* and the fawn antennae readily separates it from other species of the genus and the colour of the thorax and abdomen would distinguish it from *ruficornis*.

The species are listed below and the original descriptions are given when the works are difficult to locate.

#### PSILOCEPHALA NUDIFEMORATA.

*Thereva nudifemorata* Macquart, Dipt. Exot., suppl. 1, 1846.

*Psilocephala nudifemorata* White, Proc. Roy. Soc. Tasm., 1915.

This species was originally described as a *Thereva* and White gives the following note:—"This species described under the name *T. nudifemorata* is unknown to me; von Kroker states that it belongs to the genus *Psilocephala* and I place it here on his authority; the genus *Thereva* does not occur in Australasia."

#### PSILOCEPHALA LUTEA.

*Psilocephala lutea* White, Proc. Roy. Soc. Tasm., 1915.

Type locality: Bagdad Valley, Tasmania.

The male is unknown.

#### PSILOCEPHALA NITENS.

*Psilocephala nitens* White, Proc. Roy. Soc. Tasm., 1915.

Type locality: Hobart, Tasmania.

The female is unknown.

#### PSILOCEPHALA VENUSTA.

*Thereva venusta* Erichson, Arch. V., Nat. VIII., 1842.

*Psilocephala venusta* Kroker, Ent. Mitt., 1912; *Id.*, White, Proc. Roy. Soc. Tasm., 1915.

"Nigra, nitida, ano rufo, pedibus testaceis, alis dimidiato-nigris, fascia alba. Long 4 lin."

"Nigra. Antennae obscure testaceae, articulo primo nigro-hirsutulo; haustellum obscure testaceum. Frons tenuiter albo-pubescentis, medio leviter impressa. Caput infra albo-pilosum. Thorax tenuissime canopruinosus, obsolete striatus. Scutellum ferrugineum, basi nigrum. Abdomen nigrum, nitidum, segmentis ultimis duobus rufis. Pedes flavotestacei, coxis posterioribus basi nigricantibus, tarsis apice fuscis. Halteres fuscis, stripite flavo. Alae basi ad medium usque hyalinae, nervis costaque flavescens, dein nigrae, fascia transversa albo-hyalina."

Described from Tasmania. The male is unknown.

## PSILOCEPHALA OCCULATA.

*Psilocephala oculata* White, Proc. Roy. Soc. Tasm., 1915.

Type locality: Bagdad, Tasmania. The male is unknown.

## PSILOCEPHALA RUFA.

*Psilocephala rufa* Krober, Ent. Mitt., p. 253, 1912.

Type locality: Sydney. The male is unknown.

## PSILOCEPHALA SAXATILIS.

*Psilocephala saxatilis* White, Proc. Roy. Soc. Tasm., 1915.

Type locality: Bagdad Valley, Tasmania

Both sexes are known.